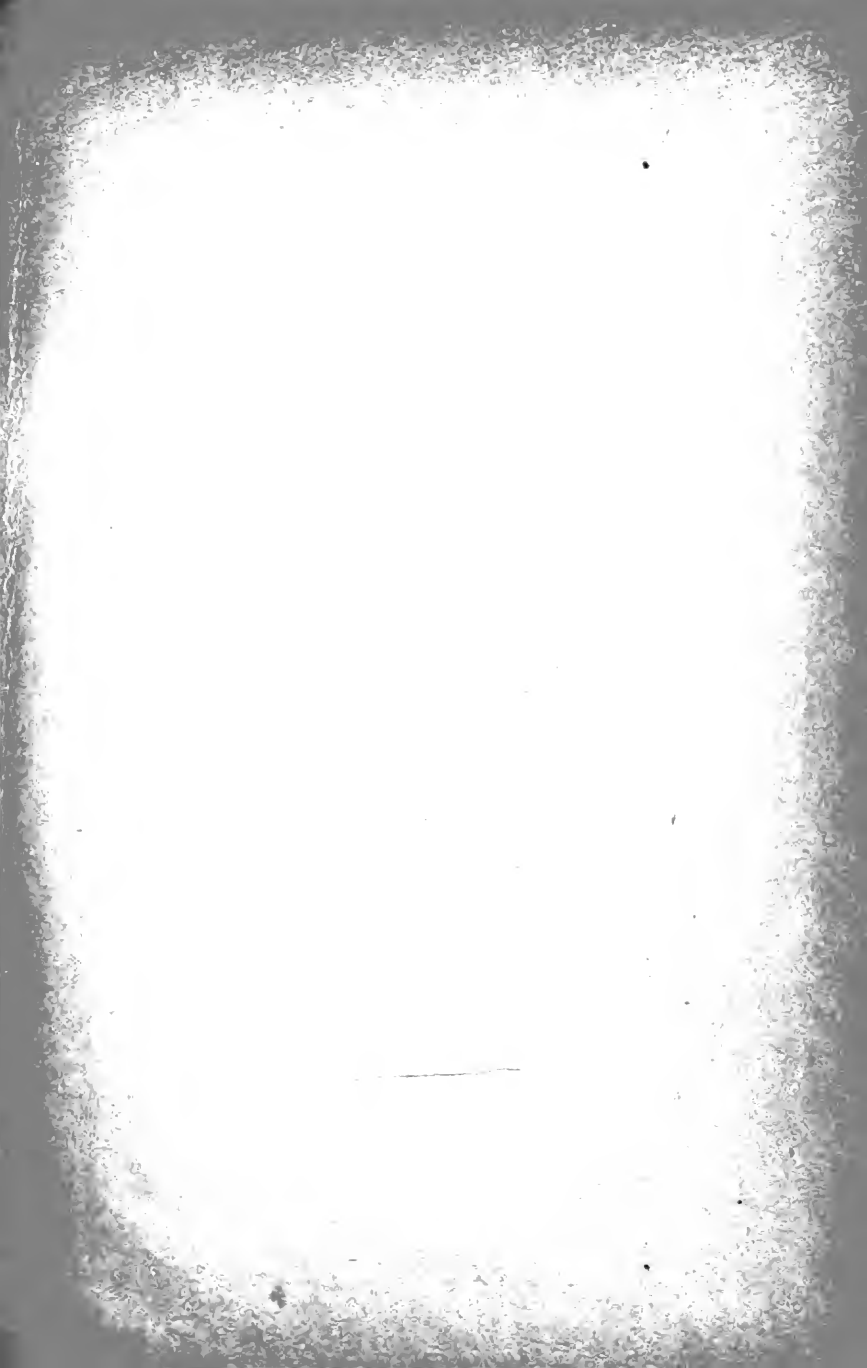


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HUMAN FACTORS IN INDUSTRY

A STUDY OF GROUP ORGANIZATION

By

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of the Labor Question," etc.



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PREFACE

To consider all the elements which are involved in a complete study of the labor problem would be impossible in any single volume. Study of the subconscious necessities of human development—which operate in connection with industry as they do in connection with all other social progress—would lead into the realm of philosophy if it were to be pursued to fundamentals. Merely to obtain an immediate and practical understanding of the conditions would require an examination of social and political progress in the various industrial countries, in order to explain the relation between labor troubles and political outlook; while educational methods and conditions have so important a bearing upon the development in industrial relations that a proper consideration of the question would require a very careful analysis of these conditions.

The extent and value of present medical knowledge, the effect of universal suffrage, and the effect of racial and traditional religions would form a part of any complete analysis of the matter.

This volume intends to deal only with the relation of the question to the practical development of industry in the more or less immediate future. For that reason it will be confined to those industrial methods, in the present and the comparatively recent past, which are necessary to the analysis of this part of the subject. Wherever it is important to deal with the social, educational, or other general aspects of the matter, in order to show the way in which they have affected industry, these matters will be stated as concisely and clearly as possible. No attempt

will be made to discuss the evidence or make any detailed examination, beyond that necessary for the purpose of explaining the present industrial condition.

For the most part, this work deals with the mental factors of industrial relationships, with organization conditions, and with experiments in changing or modifying organizations. Due consideration is given to the ideas of labor unions and their definition of their objects, as well as to the developments brought about by various industrial groups or units, and through the pressure of public opinion. The work is the result of a great many years of intimate observation of industrial conditions in actual work with labor and in the supervision of all kinds of labor. It is hoped that it will present to the business man and the student of industrial affairs, a sufficiently complete and concise analysis of the difficulties which must be met and the outlook in meeting them.

HARRY TIPPER

New York City,
March 20, 1922.

CONTENTS

CHAPTER	PAGE
I The Growth and Development of Labor Unions	3
II The Trade Union Idea	20
III Specialization and the Social Organization	32
IV Modern Social and Industrial Interdependence	45
V Education and Industry	59
VI Manufacturers' Organizations	74
VII Collective Bargaining	84
VIII Balance of Industrial Power	93
IX Leadership in Modern Industry	103
X The Functions of Organization	116
XI The Failure of Present Group Organizations	125
XII Experiments with Employee Representation	134
XIII Using Labor Union Machinery	167
XIV The Worker and the Job	192
XV Incentive	198
XVI Fatigue	207
XVII Fitting the Job to the Man	220
XVIII The Wage System	231
XIX Bonuses and Profit-Sharing	244
XX Industrial Relations Department	253
XXI Open Shop	264
XXII The Outlook	270



**HUMAN FACTORS
IN INDUSTRY**

CHAPTER I

THE GROWTH AND DEVELOPMENT OF TRADE UNIONS

Early Industrial Difficulties

In some quarters arguments have been advanced to show that the modern trade union is a logical outcome of the guild system of the Middle Ages. Efforts have been made to develop the agreement between these ideas of business organization among workers, but an examination of the structure of the guild system and its operations indicates that it was quite different, and rose out of different industrial and social necessities.

In fact, the whole character of social existence prior to the introduction of the steam engine into the factory in the year 1785 was so different, that it can be used only to indicate the traditions out of which have come the general political, social, and industrial ideas governing our development. It is true that industrial questions were sufficiently important to influence political action at earlier periods. There are a number of records in the laws of Great Britain in the fifteenth and sixteenth centuries, indicating the extent of industrial difficulties. In 1541, Parliament was concerned with the drift of farm labor to the cities. The question was discussed at great length in the Houses of Parliament, and resulted in a law conscripting every tenth man for farm work on his coming of age. The wage of these farm laborers was fixed and the conditions of their employment specified to some extent.

The common law of Great Britain at this time and until long after the beginning of the factory era, expressly forbade the combination of workers, one with the other, for the purpose of raising wages or otherwise altering the conditions of their employment. Of course, the same laws forbade combinations of employers for the restraint of trade, but the actual enforcement of the laws was more strictly observed in the case of the workers.

Simplicity of Early Conditions

Up to the beginning of the factory era, production had changed very little in the thousands of years since the Egyptian civilization. The political, legal, and social structure had been built upon this economic organization. The worker learned his trade at the bench, the loom, or the forge, and was required to employ all the instruments of his trade and to do all the work involved in his trade, from the selection of the raw material to the sale of the finished product. There were few standards, and therefore no means of comparison. There was little competition. The skill of the individual worker determined the value of his goods. Towns of fifty miles apart were further away economically than opposite sides of the world are today. The groups of workers under the same roof were small. It is calculated that in the year 1800 in Great Britain, there were not more than fifty establishments housing more than ten workers each. The instruments of his industry were owned by the worker, and the employer supplied only the place to work and the material for the work. Between 1750 and 1800 the use of water power for manufacturing purposes developed to a slight degree the ownership of the machinery by the owner of the factory, particularly in textile work of weaving and spinning. Even in this industry, however, most of the workers

owned their own looms, spinning wheels, or carding machines.

Until the introduction of the steam engine, the worker operated as an individual, and his skill at his trade represented his value. The instruments of industry were very crude and simple, and the difference in the product was the difference in the skill of the worker. Production was an individual, personal, and intimate matter. The object of the job and the skill of the worker were reflected immediately in the character and value of his finished product.

Communication was difficult; reading and writing a rare accomplishment. The workers' interests were confined, for the most part, to his own community—those things which he could see from his own door-step. He could continue to exercise and enlarge his skill for a lifetime in the pursuit of his own work, without reaching the measurable perfection of his ideals. His political and social outlook was concerned only with his immediate surroundings. Every community of workers was the center of a little district which was practically independent of any other district, and had no important problems without the confines of its territory.

The Steam Engine and Loss of Craftsmanship

When the steam engine was introduced into industry and provided the factory owner with a source of constant power, it became possible for the owner of the building to put in the machinery, hire the worker at the usual wage, and produce much more rapidly at a much lower cost. This extension of the ownership from the factory itself to the ownership of the equipment, added to the capital possibilities and to the owner's power over production conditions.

In order to get the greatest benefit out of this investment in the equipment, it was necessary to bring the worker to the mill and to bring larger and larger groups of workers together. Because the machine was of value in production only as the same operation could be repeated, it became necessary to standardize the work. In the first twenty years after the introduction of steam into the mill, the worker, who had been accustomed to pursuing his old trade, found himself the operator of a machine, which repeated its previous performances without change and without any difference in quality. The old weaver, instead of choosing the yarn and the colors, making the design and the cards, and deciding upon the character of the weave, found the yarn was chosen for him, the design standardized to permit of machine operation, and the character of the weave determined. The first trade unions were formed during this period.

British Trade Union Laws

The growing industrial difficulties and the impossibility of enforcing the law against combinations of workers led to the legalizing of these combinations in 1824. Immediately upon this enactment, the increase of workers' combinations and the rapid growth in industrial troubles alarmed the country, so that in 1825 Parliament repealed the Act of 1824, and reinstated the old law.

The manufacturer first introduced the standardized wage at this time. Because of the similarity in the operation of one machine to another, some of the manufacturers decided that it was unnecessary to pay the different wages to which the hand workers had been accustomed, and, for similar operations, they began to standardize the pay.

Trade unions were not entirely legalized in Great Britain until after 1865, and it was not until after 1875

that unions were relieved from suit for damages to industry on account of their combinations. The question was finally disposed of when the decision rendered in the Taft-Vale case had gone to the final appeal about 1900.

British Unions a Necessary Growth

The industrial conditions of Great Britain during the earlier period were sufficiently appalling. There were no child labor laws, and children from five to seven years old worked with older people in factories in which there were no standardized hours in the day. There was no efficient system of lighting. In the short winter day the work had to be continued with the aid of the feeble tallow candle. No knowledge of sanitary requirements existed, and factories were built with little regard to window space, air, and other necessary health provisions. They were crowded with workers to the limit of possibility. There were no laws against fines and penalties upon the workers, and in some lines of business the conditions grew so intolerable as to excite the attention of public reformers in various parts of the country. The evils of boarding, of the fine and penalty system, of long hours in unsanitary buildings, and of child labor, had been going on for two generations in Great Britain before the end of the Civil War.

During this period the trade union development received its greatest justification and attained its greatest definition of object. The development of the factory system in that country between the years 1785 and 1875 had been so unjust, and had resulted in a servitude so appalling, that the development of the trade union was a matter of life and death to the individual worker. The objects and the ideals of the union were defined when the bitterness of the fight for justice colored the policies and

the definition. Not only that, but the workers were unable to voice their protest through political action. There was no universal suffrage and the methods employed in the elections made it impossible for the workers to bring their grievances to the law-making body. The strikes which occurred were necessary as a means of calling public attention to the injustices suffered by the workers. The riots accompanying these strikes were themselves the outcome of the suffering and the failure of industry to conduct its own reformation. Out of this industrial warfare came the desire for political expression on the part of the labor unions. This resulted in the policy of putting up candidates for Parliament, which policy came into actual practice about 1890.

Later Developments of British Trade Unions

In the last twenty-five years the labor organizations in Great Britain have secured a firm hold upon the workers of that country. A majority of the workers, in most lines of industries, are members of trade unions. In many occupations the majority is from 85 to 95 per cent of the total working population in that field. The long development of these organizations and the definition of their objects and aims have solidified their strength. They are necessarily a part of the permanent machinery of industrial control in that country, and their attitude must be taken into account in any examination of the conditions and outlook in Great Britain. Their Parliamentary representation has grown greatly. The Labor Party has secured the balance of power on some question before the British Parliament on more than one occasion. Despite radical movements and the direct-action talk among trade unionists in Great Britain, trade unions as organizations are committed to political action, and in their platforms

have expressed their adherence to certain well-defined objects of political action.

The Shop Stewards

The long practice of dealing with labor questions through the trade union machinery resulted in the gradual development of a great many rules and regulations, arising out of the different discussions between the industrial groups and the labor representatives in the locality or in the industry. The question of wages was hardly ever raised without having additional questions relating to hours, conditions of work, and methods of production, so that the settlement of each case included the settlement of some of these other questions temporarily. Rules were established to provide for the application of these new agreements in the shop. In the course of years, with this method of settling grievances, the rules and regulations became quite numerous, and called for special machinery for enforcement. The unions each appointed a shop steward, paying him out of their own funds and charging him with the duty of seeing that the rules were lived up to by the company. He was also charged with the duty of representing the union men in conferences with the company, whenever the various rules and regulations were not being enforced, or the conduct of the business was unsatisfactory to the unions.

The practice had grown to be quite general about ten years before the war broke out. The power of the labor organization had increased greatly not only in the discipline of their own members through this systematic control of the operations, but also in their actual power over the methods of industrial development and the observances of the trade union rules within the factory.

This gradual change in operating contact and interpre-

tation made the trade union organization an integral part of the industrial life of Great Britain. During these years the shop stewards acquired great power in the councils of the local unions. The shop steward in his capacity was capable of showing the value of his services to the union and his ability to settle questions, to preserve the union privileges and maintain the union rules within the shop. This made his influence in other trade union matters very great. Just before the outbreak of the war, the shop stewards in various localities had begun to find out the advantages of consulting together upon matters affecting rules and regulations. They formed themselves into local bodies which eventuated as the allied district trades-councils. In their various localities these bodies sometimes wielded more power than the officers of the separate unions involved.

Co-operative Societies in Great Britain

No examination of the growth of union power in Great Britain would be complete without a consideration of the growth of co-operative societies. Although these were not fathered by trade unions as organizations, they were originated by the workers and continued by the workers, and have been operated without the necessity of outside capital or organization.

The history of these co-operative societies has been sufficiently interesting to call for a number of books upon the subject, but briefly, they started among the textile workers in Yorkshire—a group of whom, irritated by what they regarded as the excessive profits of the retailer, decided to start their own retail store and back it with their own money. They accomplished this and installed the most likely one of their number as the manager of the store, paying him the same wages he would have earned

at the mill. The stock was owned equally by the members and dividends were paid part upon the stock and part upon the purchase of goods. In the fifty or sixty years since the inception of this first co-operative effort, the societies had grown marvelously. The combined co-operative societies in Great Britain did a business of approximately \$600,000,000 in the year before the war. They owned extensive tea plantations in Ceylon, cattle ranches in Argentina, fleets of ships, factories of almost every kind in Great Britain, miles of warehouses at the important ports, and thousands of stores. These co-operative societies showed, perhaps, more than any other single activity of the workers, the power of a homogeneous people of long mechanical training and similar ideals, to put their co-operative ideas into practical use for themselves.

Union Leaders in Parliament

Another element in the growth of trade union power in Great Britain was the intense interest evinced by the individual unionist in all union questions, and consequently the keen selection of leaders from the standpoint of their capacity. In the hundred years of growth in the trade union organization of Great Britain, the constant training in organization development and the manifold activities of organization brought to the surface more and more aspirants for place and a keener competition; so that the leaders were selected with more regard to their capacity for leadership.

When the trade unions in the textile districts in the North of England decided to put up a candidate for Parliament from their own ranks, and pay him a salary from their own funds, they had in mind the accomplishment of some very definite objects.

The writer remembers attending a meeting of trade

unionists in Lancastershire, who were assembled to listen to the candidate they had selected for Parliamentary office and hear his views upon public questions. This was one of the earlier efforts to get a labor union man into Parliament. There were about 5,000 men in the hall and the keenness of their interest and the character of their questions to the candidate, left a vivid impression of the power of such a well-defined political movement. The man who was candidate at that time was one of the men who held a cabinet seat in the Coalition government during the war.

This entry into politics demanded the selection of leaders who could be expected to hold their own in Parliament, who could be expected to state the trade union case with power and obtain the respect of their fellow Parliamentarians. The political experience itself also had its effects upon the trade union councils and the character and direction of their activities; so that on all sides the constant experience with political matters acted to consolidate the power of the organization and the effectiveness of its work, in the attainment of the objects before it.

The British Labor Party

Under these conditions, it was not surprising that the government found it necessary to have labor leaders in the cabinet when the war broke out. The trade union organizations were used for the purpose of getting proper production, and the government came to depend upon the co-operative societies for the machinery of manufacturing and distributing goods required by the war or controlled because of the war. The trade union leaders took advantage of the situation to extract from the government definite promises as to the return of their privileges after

the war was over, the consideration of their political objects, and the development of machinery for the settlement of industrial disputes. The way in which the Coalition government failed to meet these promises and redeem them in its schedule of reconstruction legislation is likely to have a very great bearing upon the future political development of Great Britain in the next few years. The system for the adjustment of industrial disputes approved by the British government and set in motion recognizes fully the trade union machinery, and makes no provision for any other machinery to represent the workers. The program for reconstruction and some of the work which has been carried out contains a good many clauses directly taken from the reconstruction platform of the Labor Party.

It is not unlikely that the Labor Party for some years will have the balance of power in politics in Great Britain. At any rate the trade unions by their practical development have put themselves in the forefront of every progressive move, so that they are, even in respect of ideas which were promulgated by the old Liberal Party, more important in the eyes of the public. They have consolidated their position in industry so that the character of industrial development in Great Britain will depend to a considerable extent upon the outlook and actions of the trade union organizations.

Union Development in the United States

The development of trade union organization in the United States has progressed only to a small degree in comparison with its growth in Great Britain, and it does not at present occupy the same important position, nor can it be considered, as yet, an integral part of the machinery of industrial organization in this country. Many circum-

stances have contributed to the difference in development. While a few attempts were made to operate trade unions in this country previous to that time, the union idea began to develop only about thirty years ago, and its growth originated from the workers who were acquainted with the trade union development of Great Britain and its later consideration in Germany.

During the years in which the American Federation of Labor has been operating, there has been an enormous influx of population, coming from countries where there had been no trade union development, nor even the suggestion of a trade union idea, and comprising so many nationalities with so many influences and racial backgrounds that progress in organization was actually very slow. A large portion of this immigration came from countries where there was little industrial development and where individualistic ideas of labor still prevailed, and most of them came to the United States because of the possibility of individual improvement.

In addition to this, the economic status of even the poorly paid laborer was so much better than anything to which these people had been accustomed, they were not aware of the grievances which always form the incentive for initial trade union organization. Nevertheless, the American Federation of Labor progressed to the point where it had about two and one-half million members in 1913, and in some lines of business the organizations were strong enough to control the situation. The earlier organizations and those which were the strongest were to be found almost invariably among the trades, manned largely by immigrants from Great Britain, Ireland, the Scandinavian countries, and Germany.

The growth of the American Federation of Labor began to accelerate three or four years before the war, and

its acceleration was intensified by the war conditions and by the advantage taken to strengthen the position of the Federation.

"Industrial Workers of the World"

During the ten years before the war and particularly among the foreign population, the more revolutionary workers' organizations classified under the general term "Industrial Workers of the World" began to secure a foothold. In the two or three years immediately preceding the war, the membership in these organizations was very largely accelerated. This occurred primarily in the great cities where the industrial growth had been very rapid. In these places the workers of the different nationalities had remained herded together, without being assimilated in the life of the country, and remained steeped in the racial ideas, sentiments, and animosities in which they had been brought up. In the last fifteen years, therefore, there had grown up in this country many organizations differing in the character of their objects and in the method of their development, none of which were sufficiently powerful to exercise the dominant influence. All of them were powerful enough to cause a great deal of interruption to industry and create a succession of demands—without any well-defined object and without any well-defined method of arriving at it.

Present Conditions in Great Britain

The present conditions of Great Britain show:

1. Complete machinery of trade unionism with its local, district, and national councils and its machinery for collective bargaining with groups of employers.
2. A political labor party, grown out of the desire for political expression by the workers, and developed

until it includes a great many of the small shopkeepers, the professional classes, and other brain workers. This is a political party with very definite political aims of an economic character and with a powerful influence upon the whole character of politics in Great Britain. There are indications that its power, exhibited in the war, has not decreased since the war has ended, and that it will exercise a more important influence upon politics than it has done in the past.

3. The introduction of government-approved machinery for the investigation and settlements of labor disputes, which includes the local, district, and national trade union organizations as the representatives of the workers, and the employers' associations as representatives of capital. This system has, as its fundamental principle, the use of local and national bodies to include representatives of trade unions, employers' associations, and the unaffiliated public or government.

4. A general tendency on the part of all sections of the population to admit the necessity for public or political action upon economic matters, and a general approval of the government encouragement to consider such matters from a political standpoint.

These developments indicate that the present conditions in Great Britain, in respect of labor problems, are entirely different from those obtaining in the United States. The methods which are being employed in that country to meet these problems are not applicable to conditions in the United States. The workers are so completely organized in Great Britain that the unions represent a large majority of the workers in any industry. The rules and regulations of the union govern the operations of the different factories to such an extent that all workers are accustomed to these and to working under union condi-

tions. The employers' groups have been accustomed to recognize these unions in their dealings with the workers, and there would be no object in attempting to set up new machinery or break down the present machinery, so completely integrated with the industrial system.

Present Conditions in the United States

In the United States the conditions are entirely different. We find ourselves facing matters with organization that is not nearly so well defined nor so complete. This gives us the opportunity for experimentation along a number of lines and may well allow us to lay a better foundation for the solution of these questions, provided we approach the matter intelligently.

The conditions are briefly:

1. The majority of the workers do not belong to any one organization. The American Federation of Labor, with four million members, claims to be the largest, and it undoubtedly is the best organized, best disciplined, and the most conservative labor organization in the country. It adheres strictly to the original trade union idea which was brought over from Great Britain. The next important, the I. W. W.—the Industrial Workers of the World—is not a consolidated organization, but consists of a small group of leaders with highly centralized authority and a number of loosely organized bodies held together without any great solidity and displaying very little strength in comparison to the membership claimed. In addition to these, there are unaffiliated unions, some of which are very powerful, and some of which are little more than local societies. The four brotherhoods among the railroad men are examples of strong unaffiliated union bodies. The local orders of street railway workers of New York are examples of local societies. In addition to these organ-

ized bodies, there is an enormous number of unorganized workers, who may go together temporarily for some purpose, but who are not gathered into permanent organizations and are susceptible to affiliation with a number of new movements.

2. The existence of a government during the war, friendly to trade unionism, gave a large amount of additional power to the American Federation of Labor. Since the war ended, that organization has been concerned with the development or maintenance of that power. There is no great existing political influence from the labor side, and the public does not favor the consideration of industrial matters by government. None of the labor organizations have been able to put forward well-rounded programs for political action, and the conditions upon this point are altogether different from those obtaining in any industrial European country.

3. The workers in this country comprise many different races with many variations of political and racial background, and until some time has elapsed, it is unlikely that these different races can be amalgamated into well-disciplined labor organizations.

4. The practice of dealing through the trade union machinery for the settlement of disputes is not widespread and is customary only in a few instances. During the war this practice was enlarged, but it did not become sufficiently general to make it important in its influence upon industrial organization.

5. Experiments with other forms of organization to settle labor disputes have increased very rapidly. A number of these have been started. They show the possibility of several different methods of importance in dealing with the subject.

6. A distinct tendency on the part of public opinion to

reject what are termed "radical" ideas in economic affairs, and an absence of public interest in the discussion of industrial matters.

7. The general use of the open shop in many industries and a tendency to increase in this respect.

All these elements indicate that while European action, and particularly action in Great Britain, will be interesting to us, such action will have little bearing upon our requirements in this country today. We are not prepared to devote the time to the careful study of the matter which is usual in those countries. We are not at the point of organization which would make the problem as acute. Our labor conditions are entirely different, and our economic conditions are sufficiently at variance to have considerable influence upon our methods.

As this book will deal very largely with conditions in the United States, the material which is included in respect of the European countries will be included only to provide the proper background of knowledge from which to consider the tendencies.

CHAPTER II

THE TRADE UNION IDEA

Trade Unions an Economic Idea

The present development of the trade union platform is a gradual evolution, dating back a little over a hundred years. It is particularly interesting because it represents the orderly enlargement and definition of an economic idea. It has objects in view, more definite than the ideas upon which political parties have grown and developed or the ideas upon which industry has exerted itself.

Because of this definition and its momentum, it is important to consider the ideas which have developed in the growth of trade unionism and their relation to industrial organization. It is obvious that a growth of this kind showing the profound effect upon the life of Great Britain, France, and other industrial countries must possess a sufficient momentum to extend that influence and alter to a considerable extent the political development of the near future.

It is equally obvious that there must be something more than the mere demand for increased wages, better economic conditions, etc., in an idea finding so many millions among its adherents and exercising so much influence upon the whole body of an industrial people. Our ideas as to trade unionism are founded very largely upon the strikes in which they have engaged and the immediate demands they have made. These things do not represent the fundamental elements of the trade unions, nor do they explain its strength and its constant growth.

In the first chapter a short explanation was given of the conditions in industry in the early years of what has been termed the "industrial revolution"—that is, the first fifty or seventy-five years following the introduction of the steam engine.

Space does not permit a proper examination of this period and the influences going into the building up of the trade union objects during that time. The evidence cannot be shown; but some statement must be made of the fundamentals of this development in order that the present status of trade unionism may be thoroughly understood.

Fundamentals of Development

The three factors affecting the growth of trade unionism in its early history were:

1. The absence of economic safeguards and the exploitation of the worker.
2. The change in the creative development of the worker.
3. The massing of workers in group production.

So long as the worker owned the tools of his trade and the production was dependent entirely upon his individual skill, there was no incentive for workers to combine to secure a more stable economic condition. The skill of the worker was his own safeguard and his future was dependent only upon his own endeavors. The distance between workman and employer was so small that a very little extra skill or capacity made it possible for the man to migrate from one to the other. Because he owned the tools, the worker could always employ himself at his occupation. He carried the possibilities of his labor with him.

When the employer replaced hand power by the steam engine, built the equipment for the work and owned it himself, the worker was deprived of any opportunity to continue his occupation except at the will of the man who owned the tools of the industry and the power. The use of the steam engine permitted a greatly increased production which could not be absorbed immediately. This increased production did not bring increased consumption at once. It took some time to complete the circle, and during that time groups of workers were without any occupation. Each new development called for different requirements of skill and threw out some of the skilled workers who had learned previous methods. These workers could not compete with the machine. At one blow some of the workers were deprived of their livelihood and all the means for securing it. Every step in the development of machinery of a more efficient kind and every consequent rapid increase in production was followed by a period of the same trouble. The worker at that time was utterly without the means to protect himself. He could not work unless the employer provided the machinery and he could not live without the work. Every increase of production meant an increase in the market so that the production could be absorbed.

While it is true that more production was followed by more work, and that a larger population could be continually employed because of the increase in production, these things did not adjust themselves simultaneously. The records of employment in Great Britain indicate that in very few of those years was it necessary to keep the whole working population employed in providing what the markets would absorb. The instinctive dislike of this power machinery by the worker, the removal from him of the government of his own work, and the effect which

this machinery had, of placing him under a servitude to the whim of the employer, resulted in rioting and the destruction of machinery in many factories established in the north of England. These were the elements which gave rise to the first steps in the organization of workers into permanent bodies or unions.

Protection for Workers

Many of these unions began as friendly societies to take care of sick workers, to provide for the burial of workers, and to see that the families of the workers were not reduced to complete starvation. The first ideas, therefore, upon which the trade unions were founded were ideas of protection against exploitation to the point of starvation, protection against accidents and sickness accompanying the growing industrial development, and protection against the fine and penalty system which kept the workers, in some trades, in constant debt to their employers. To this was added at an early period the idea of protecting the worker against unemployment.

The necessity for protection in this period is well illustrated by the story told of his father by a Scotch acquaintance. The father worked at the pithead of a coal mine, putting the coal into cars. He made as much as 12 shillings and 6 pence in a full week and brought up a family of four boys. One day he was crushed between two railroad cars at 11 A. M., so that his arm had to be taken off, disabling him from further service with the coal company. He was paid up to 12 o'clock of the day on which the accident occurred. No payment was made for the expense of his long sickness, no adjustment for the permanent injury, and no attempt to find any other work for him. The conditions in this family were such that meat could be secured only upon rare occasions, and the

strictest economy was necessary to keep the family intact.

In an examination of conditions extending over many years, the unemployment in Great Britain reached 10, 15, and 20 per cent of the working population in the various years, and at no time was the entire population engaged in productive labor. At all times there was considerable starvation or semi-starvation in some section of the population and considerable demand for governmental relief. Wages were kept down, constantly, by this condition of excess labor.

Casual labor and unemployment have been severe problems in Great Britain for many years.

Effect of Massing of Labor on Workers' Power

The main business of the union, however, speedily became that of using the power of organization for the purpose of improving the economic condition of the members.

As individuals the workers had found that they possessed no power to arrive at a just agreement with employers. The refusal of the individual to work at the price which the employer was willing to give, offered no embarrassment to the employer, and there was no possibility of discussion. In the beginning of the factory system, when establishments contained less than fifty and very frequently less than ten workers, the refusal of the individual to work was of sufficient importance to lead to the proper discussion and agreement. When, however, the factory system grew sufficiently large, so that the number of workers crept up to 100, 500, and 1,000 in the same establishment, the refusal of one individual to work, simply closed the doors of that establishment to him without any discussion or any attempt at an agreement.

Publicity of Working Conditions

The organizations of workers, therefore, found their early development in two directions:

1. In the use of their organization as a means of directing attention to their grievances and forcing the manufacturer to recognize their power to negotiate.
2. Protecting themselves in case of sickness or accident, and their families in case of their death or disablement.

The conditions indicated in the last chapter continued in Great Britain until the workers were sufficiently organized to draw public attention to the existing evils, through their propaganda and their strikes. It is unnecessary to illustrate, because a considerable number of books have been written concerning this period and its evil results, and some of the most famous writers of the early Victorian period adopted the industrial evils of the time as their theme.

Some of the difficulties which existed in this country during the growth of industry immediately after the Civil War, are not so well understood. The conditions in and about the mines, where the mining company owned the town, had its own workers as tenants, and operated its own stores and saloons, has been the subject of a great many discussions, but the effects upon the industrial condition have not been considered properly.

The Padrone System

The padrone system which rose with the immigration of foreign-speaking peoples was an unmitigated evil in its practical operations. Two instances will serve to illustrate the way in which men were handled during this period.

A friend of mine, who was a young engineer on a railroad construction job out in Illinois at that time, told me the story in the course of some conversation about the progress of railroad building and the difficulties they had to encounter.

There were a number of Italians employed on this work and they were camped at the scene of action in the old box cars used for this purpose. Some of the number were taken off to cook for the rest, and the company withheld a portion of the wages to pay for the cooks. This the men would not agree to, a row ensued, and the whole bunch were fired. A telephone message to Cleveland brought the response that the proper number of new men could be sent out. The men who were fired were put in box cars, standing about one hundred to a car, and shipped back, while the new ones came out in the same way.

Another instance occurred on railroad work a little farther south. A man was killed in the switch yard at 9 o'clock in the morning. His widow came for his pay the next day. The auditor at that point was obliged to dip into his own pocket to complete the pay for the day on which the man was killed, because the company had ruled that a man ceased to be on the pay-roll automatically from the moment of accident.

The immigrants who could not speak English were entirely under control of the padrone and they were exploited in both ways. Only the sparse population and the rapidly growing wealth of the United States prevented serious bitterness and difficulty arising out of these conditions.

Political and Social Ideals

These objects of the trade union were protective. The first was concerned with the protection of the worker against the exploitation of the more powerful employer, and the second was the protection of the worker against

the unsanitary and unsafe conditions of employment and the other emergencies arising out of their new industrial position. As the power of the trade unions grew, and as the workers became more educated, concentrated in larger numbers in manufacturing establishments, and comprised a larger number of the growing population, their protective measures were understood and defined. They included a definite program for improving the economic conditions and informing public opinion in respect of their surroundings and the necessity for an equal improvement in those surroundings. As this program defined itself, it contained more and more expression of the aspiration of the workers, and was less confined to their actual necessities, until it logically extended itself into a definite political ideal requiring a new conception of governmental activity and state responsibility.

Because these organizations of workers secured their advantages by sinking the individual differences in the common necessities, they tended to standardize all demands among members of the same craft and to bring about a greater solidarity among the workers in that particular craft. Furthermore, as the trade union organization grew, found that different crafts were faced with similar difficulties, and were obliged to use similar methods to accomplish their purpose, the various organizations began to affiliate in order to consolidate their power and to define their common demands. This again tended to develop a solidarity between the workers in the different trades and a common understanding and definition of the political and social aspirations of these workers.

Class Prejudice against "Scabs"

Inasmuch as the strength of union organization depended upon the membership of a majority of the

workers in any one trade, or the membership of a considerable minority, the pressure upon individual workers to become members of a trade union was very great. As the power of the unions grew, the method of ostracism and the play of class opinion were turned against all workers who failed to join with the other members of the craft in the workers' organization. For a great many years in Great Britain, the full weight of class prejudice and all class pressure has been exercised against the worker who did not join in the trade union movement, until to be a "scab" was almost as bad a designation to the worker as to be a traitor to one's country.

Control of Production by Standardization

The trade union did not standardize wages, originally, but it did enforce that standardization and use its power to make it an integral part of the industrial machinery. The use of the trade union organization for the purpose of improving the economic condition of the worker, brought about a uniformity not only in the rewards of labor, but in the conditions under which the labor was to be performed, and its rules and regulations increased to such an extent that they went into the more intimate details of operation. Practically, in Great Britain today, the trade union governs not only what the worker shall receive and what work he shall do, but how it shall be done. The limits of a man's craft are as definitely determined as the requirements of that craft, and these definitions have extended to such a point that while the trade unions do not own industry, they definitely control production, not only in volume but in respect of the methods and equipment. It is not much of a step from this kind of control to the socialistic idea of the common ownership of the means of production, and the trade union

development has been definitely in the direction of socialism, although more limited in its operation and more sharply defined in its program.

Since the trade unionists in Great Britain formed their own political party and secured their own members of Parliament, their political platforms have taken a more complete national aspect.

Autocracy and Discipline of Trade Unions

This examination of the ideas and tendencies of trade unions is of importance in considering the situation in the United States, because the same ideas are back of the trade union movement in this country, and the same tendency is to be observed in the direction of its development.

The trade union has employed force and coercion, no less than the manufacturer, and is fundamentally just as autocratic. That coercion which individuals have fought against, and which great bodies of individuals have tried to eliminate, can be exercised just as fully by a body of men organized for their own purpose as it can by an individual. It is none the less coercion, although it be exercised by a majority, and the exercise of this coercion by the trade union to hold its membership, to consolidate its opinion, and to enforce its desires upon others, is clearly autocratic, and opposed to the principles of individual rights on which the democratic development has been based.

Carried to its logical conclusion, the trade union idea must dominate or be dominated. Its development does not indicate any tendency to the sound tolerance of individual opinion, necessary to democratic development. It has never tolerated the man who would refuse membership, although he was working in a trade that was organized. Every pressure has been used to oblige the

worker to enter the union ranks. The trade union has never tolerated the infraction of its rules by its own members, and it has made its rules so that there was little opportunity for individual expression. Its discipline is an enforced discipline of regulation with a mass of detailed red tape, and not the discipline of common agreement and understanding. The organization of workers based upon trade union development and idea cannot solve the industrial problem. It can control production as it does in Great Britain, it can develop into political machinery and control government, or it can improve the economic condition of its members, as it has done in the United States.

Achievements of Trade Unions

It is obvious, however, that the trade union was absolutely necessary to the worker during the development of industry. It has justified itself in the eyes of the worker, and its progress has been sufficiently rapid to oblige industry and government to reckon with its power.

The trade union was of great social benefit in limiting the autocratic power of the employer, in drawing public attention to the bad conditions surrounding industrial employment, and in enforcing a measure of respect for the worker and his necessities. Most of the legislation which has occurred in manufacturing countries limiting the hours of labor, the conditions of employment, the character of factory buildings, the space allowance for workers, and so forth, were originally enacted because the workers themselves, through their trade unions, had called attention to the necessities and to the detrimental conditions under which they worked. It is not possible to find during the history of industry from 1800 to 1890, any voluntary agreement by industrial groups as to the re-

quirements of health, sanitation, and other matters, although there are many cases where the regulations were fought by industrial groups for a long time before the pressure of public opinion was enabled to secure their passage.

It is not surprising, perhaps, to find that some of the states are far behind in their laws respecting industry, but it is somewhat surprising to find groups of employers still fighting those enactments in which enlightened self-interest alone should enlist their full sympathy.

Effects of Economic Warfare Methods

It was necessary for the trade union during the period of its struggle for power and attention to use the methods which belong to economic warfare. The history of the matter proves sufficiently, that in no other way could the worker have improved his condition or lightened his servitude. These methods, however, are not methods by which the great co-operative machine of industry can be run to its best advantage, nor are they likely to keep industry at the required pitch of efficiency. Now that the power between the worker and the employer has been somewhat equalized, the interruption of industry by methods of economic warfare and the autocratic habits of the trade unions in the discipline of their own members, can only prolong the struggles, increase the interruptions, and lower the general efficiency of business, unless those in charge of workers' organizations and those in charge of employers' interests are possessed of sufficient human wisdom to modify their methods to suit the new conditions and to meet the new difficulties.

CHAPTER III

SPECIALIZATION AND THE SOCIAL ORGANIZATION

The Industrial Revolution

Not long ago the vice-president of a very important manufacturing establishment and a man who has studied industrial organization very thoroughly, illustrated the difficulties in organization pertaining to modern industry, by the following statement: "If we could conceive of the controller of public works of the time of Ptolemy talking with a man in a similar position of the time of Washington, the character of industrial operations would be sufficiently similar to enable them to understand one another. If, however, we imagined the controller of public works in the time of Washington talking with a man similarly situated today, they would be talking in a language so entirely different that there would be no hope of a reasonable measure of understanding between them." This is simply a way of visualizing the fact that in 130 years the whole social organization has developed in complexity and changed in character to a greater extent than it did in 3,000 years of previous history.

This has been stated so frequently that it is a mere platitude and useful only for the conclusions to be drawn from it. The development which has taken place since the beginning of what is termed the industrial revolution has been confined almost entirely to the development in mechanical organization, the increase in the convenience of life, and the general distribution of the mechanical means

of knowledge. There is no evidence that general human understanding of its own necessities has kept pace with this development in mechanical organization, and nowhere in the realm of philosophy, religion, or politics is there any indication that the precedents for human action have changed notably or the understanding of human necessities materially altered. Before the industrial revolution had been under way very long, it was obvious that it was having an effect upon the social organization, so profound, that the results of this effect would be very difficult to measure. A host of serious thinkers attempted to explain the changes that were being brought about, to harmonize the conflicting discoveries and beliefs, and to create out of the intellectual confusion some orderly and logical theories of progress. So from the scientists, economists, and philosophers, a large company of these thinkers on the more important problems of life have been busy sounding the depths, examining the compass and attempting to chart the direction and the difficulty of the voyage.

For the industrial man these works have small interest and he is usually unacquainted with them. His excursions into the history of the industrial revolution are confined, for the most part, to those chapters in the textbooks of his particular branch describing at short length the previous state of our knowledge and practice in that particular matter. Even the leaders of thought in the broader realms of science and social development have been obliged to specialize to some extent, in order to become versed in the technical details and to develop the analysis of their particular fields. The effect of the industrial revolution upon the whole character of social organization, however, is too intimately related to the present social unrest and the economic problems of the future to be eliminated from

a discussion of this kind. It is necessary, therefore, to refer to it, to draw some pictures of the changes which have taken place, and to suggest some of their effects not only upon modern industrial difficulties, but upon the political difficulties as well.

The Craftsmanship Period

While no one would want to go back to the hardship and inconvenience of the craftsman period preceding the industrial revolution, that period is looked upon with regret by some thinkers, and there is a sense of loss in some intelligent quarters as between the simple industrial organization of that time—in its effect upon the individual—and the complex mechanical organization of today, and the effect of the present organization upon the individual. This attitude is not altogether without reason. It is true, that the life of the average man before the factory system was a laborious one. Most of the things which are supplied to us by the convenience of specialized industries were produced by the labor of each individual or each community for itself, and the mechanical knowledge was comparatively insignificant.

The social organization of which this worker was a part was a very simple one, and little of it was beyond his comprehension. The industrial occupations were few in number and the equipment for such work very simple. The classifications of society were equally few and equally easy to determine. For the most part the food of the community was either grown within its borders or adjacent thereto, and the manufactured products were absorbed within the confines of the same region. The different communities were almost self-supporting, and the degree of interdependence between the various communities of a country very slight. Places which were a

hundred miles apart were further apart in ease of communication and in the delivery of products than the ends of the world are today. The worker in this simple organization was educated through his work. The few simple tools required so much skill at the hands of the craftsman, that knowledge of their proper accommodation to the particular pieces of work was a liberal education in the arts and required a number of years to complete. A carpenter and cabinet maker of that day chose the wood that he would use, so that he knew something of the value of different kinds of lumber; he learned the simple fundamentals of mathematics by the necessity of fitting and joining the various pieces together with the different kinds of joints. He acquired a practical education in form and decoration by the necessity for harmonizing the various pieces into a useful and appropriate completion, and adding such decorative features as would agree with the character and form of the product. He was from necessity a designer, a constructor, a skillful worker and an artist.

It is true that this man had little or no education in the sense of book learning and he could rarely read and write. Nevertheless, in respect of his work from the materials to the finished operation, he was better prepared, secured a larger foundation and a broader comprehension than a worker in a similar craft today. In fact, his work was an ample study for a lifetime; there was always opportunity for his skill to improve, and his creative instinct to secure more satisfaction from the accomplishments.

Individual Reward and Social Standing

There were no standards of pay, because there was no uniformity of work; each individual piece, whether it was made out of wood, cloth, or leather, was made and finished

as an individual piece, and the variation between individual craftsmen affected their relative skill and compensation. Under these considerations, the whole industrial process was an individual one, and the relations between employer and worker were both intimate and individual. The worker secured his reward, as well as his social standing among his fellow-workers, by his skill and his mastery of his art. He was not bound to work in a certain place, because the whole equipment of his trade was contained in the simple instruments he could pick up and carry away with him. Wherever he went, he could pursue his occupation and satisfy his creative desire. Socially, the distinction between the employer and worker was insignificant. The employer was usually a better craftsman who by his skill and intelligence had gathered about him other workers desiring to grow in their craft from his knowledge.

The master craftsman was not only the employer and the head of the apprentice school, but he was a teacher of workmen, for his leadership was a leadership of skill and a recognized mastery of the work.

The investment required to become an employer was comparatively small, and any worker who could become sufficiently skillful and who could accumulate a little of his earnings, had the opportunity to become a master craftsman and employ a few fellow-workers in the building up of his shop.

It is true that the worker of this date had little knowledge of the world. This, however, was not particularly a drawback from his standpoint as worker, because the necessities of the social organization were simple, came within his range of vision, and their relations one to the other were easily comprehended. His ambition could find its satisfaction in his work, his social standing

was affected by his skill, and the larger questions which existed between different communities and between nationalities did not touch the necessities of his life.

Workers' Present Industrial Knowledge

Today the work of industry is subdivided into such a large number of crafts and specialized to such an extent, that no individual worker has any necessity for observing more than a few of the relations and frequently no more than his own special operation.

The materials for industry are secured from enormous areas under conditions unknown to the fabricator, they pass through a series of processes at the hands of various subdivided groups of workmen, each individual of whom is limited in his necessary comprehension and skill to those operations upon which he is engaged. He sees the work only momentarily in the course of its passage from raw material to useful consumption. The beginning of fabrication and the final object of the processes are equally far away.

So much of the skill has been transferred from the worker to the machine, that it is unnecessary for him to have any long industrial education in order to become proficient in the operation of the machinery. Mostly, he has become a machine tender occupied with supplying the material to the machine and in withdrawing it after it has been fabricated to the extent of that operation.

Not only is that the case, but the requirements of work which formerly demanded that the craftsman should be a constructor and a designer have been eliminated entirely and placed in special departments where the complete detail is worked out. Even these departments have been so subdivided, that in a designing room draftsmen may continue for years to work upon the details

of designs of which they have never seen the complete arrangement.

Workers' General Knowledge and Ambitions

During this period when the skill of the worker had been transferred to the machine and the limitations of his operation had been constantly narrowed and more strictly defined, the general progress in reading and in the primary instruments of knowledge enabled him to learn about the wonders of the world, the methods of life adopted by more fortunate classes, the character of politics, the deficiencies of social government, and so forth. By the aggressive information of advertising, through fiction and moving pictures, and through economic discussion and political campaigns, he has become aware of the conveniences of life, he is importuned to possess things for himself, the value of which is constantly paraded before him but which he is unable to purchase.

The tales of other opportunities and of more favorable climates spread their alluring descriptions before him. Everything is brought within his ken and everything becomes apart of his concern. His work has robbed him of the necessity for skill, for breadth of comprehension regarding his trade, and for the exercise of the creative instinct. At the same time the more efficient training in general knowledge and the larger entertainment he secures, have increased his desire to possess convenience and to raise himself above the monotonous servitude in which his work places him.

Changes in Class of Workers

The mechanical equipment which has taken so much of the skill from the worker has required the standardizing of operations. Large numbers of people are engaged upon

operations of so uniform a character that the only individual difference is the rapidity.

It is true that there is left in most machine work, the necessity for a certain kind of skill, adjustment, and accurate care in the control of the machine, but the demand for that constant co-ordination between brain and hand that characterized the necessities of the old craftsmen has passed away and has robbed the work of its larger incentive to self-improvement.

Skill that can be acquired in a few weeks or a few days is not a sufficient incentive to continue at that work for long periods, and in almost all industries where the transfer of skill to the machine is almost complete, the more intelligent workers have constantly escaped and the less intelligent workers replaced them.

Professor Gray of Minnesota states the case of a spectacle factory in New England where in the old days of hand labor a few men were employed in making the spectacles, each man making the complete article. These men were socially on the same plane with their employer. They were sound citizens and well versed in the ordinary requirements of life. Machinery began to come in and these men passed out; they were replaced by Irish emigrants. As the machinery became more automatic, these again were replaced by French Canadians, and later these have passed out, to be replaced by Eastern Europeans.

Case after case could be stated to illustrate the fact that the most intelligent workers refused to stay in operations where the skill has been transferred to the machine to such an extent.

Workers' Irresponsibility vs. Lure of Social Comforts

These things have had their effect upon the social organization. We have massed enormous numbers of

people in our industrial cities whose only view upon life is the monotonous, objectless work they must perform, and the social entertainment feeding their ambition. While the social organization has been increasing in complexity with astonishing rapidity, these individual members of the organization are less and less capable of comprehending either its requirements or its fundamental principles of development. The lack of creative and constructive necessities in their work has almost eliminated the sense of personal responsibility in relation to the work. The complexity of the social organization leaves them entirely bewildered, without comprehension as to their place in the organization, as to the character of the organization or the interdependence of its delicately adjusted parts.

The full significance of this change cannot be determined, however, without also taking into account the political changes that have taken place. The old craftsman was interested in his community, and his community, with its surrounding radius of trade, was sufficiently self-supporting to comprehend most of his necessities. The worker of today is called upon to govern, by his votes and through his leadership, the actions of a nation and its relation to the delicate, complex, economic structure upon which our present life depends. In any country where there is a general franchise the votes of the workers are in the majority, except in the pastoral sections.

These citizens are without any comprehension of the complexities of the organization of which they are a part. They feel no responsibility towards their work, the objects of which they do not comprehend. They are constantly allured by the thousands of impressions from their reading, their entertainment, and their pursuit of pleasure in the cities. These impressions for the most part suggest the comforts, conveniences, and desirabilities of the things

they do not possess and emphasize the value of these possessions. Their foundation of knowledge is insufficient for the determination of the true and the false, in respect of the things they read and see. Their principal interest in life is to escape from the objectless work and to possess a larger measure of the conveniences of life. These are the citizens upon whom rests the majority decision in respect of the future government activities in all the industrial states.

Effect of Disparity between General and Industrial Education

This does not mean that the worker has become either less intelligent or less conservative than his forebear. It means rather that the spread of education, the improvement in communication, and the development of entertainment of all kinds have enlarged the horizon of the average worker, quickened his intelligence, and individually awakened his ambitions, while the work upon which he is engaged has required a decreasing amount of intelligence.

The increasing disparity between the growth of the man himself and the requirements of his work is responsible for a considerable amount of the unrest, and the increasing desire for a new social organization.

As the machinery of industry becomes more automatic and the operation subdivided to a greater degree, the more intelligent workers disappear from the industry and the new workers must be drawn from less intelligent groups. The difficulty arises when the intelligence required for the occupation itself is much less than the equipment of general knowledge and aspiration with which the worker is supplied. The object of the work becomes limited to the amount of reward that can be drawn from it.

The fact that there is a scarcity of the best skill in

many lines of industry and a difficulty of securing skilled workers for many trades, does not affect the truth of the statement just made. The lack of workmanship and care does not arise out of the lack of intelligence. In many classes of work, the increased intelligence has had the effect of reducing the accuracy and the care, because it has only emphasized the monotony of the work and removed the incentive for progress. Where proficiency can be acquired so easily, the desire for increased efficiency is quickly dissipated and the growth of the intelligence only emphasizes the monotony. This situation in industry has its reflections upon the character of the social organization and the activities of the political unit. In the last 100 years, the industrial countries have made tremendous strides in developing the individual in his general intelligence and in making him a more capable citizen.

The mechanistic organization of industry has been occupied with subdividing the work, so that it would require less and less time to become skillful at it, and would make less and less demand upon the intelligence of the average worker.

Need for a New Economic Arrangement

It is obvious that this anomalous state of affairs cannot continue to exist indefinitely, without serious trouble to the whole social fabric. It is not possible to provide more knowledge to the individual, increase his ambition and quicken his desires, and at the same time demand that he limit himself to work that is becoming more automatic in its character and less intelligent in its necessities.

The history of trade unionism shows the desire of the worker to find an economic place for himself in the industrial development, corresponding with his new value in the social organization, and the ideas he is putting into

practice in the endeavor to arrive at the desirable conclusions.

The methods of collectivism from the trade union to the communist party are all aimed at a new economic arrangement of the social organization from the worker's standpoint. They receive their strength mainly from the worker's desire to secure a larger place in the economic structure, as his intelligence increases.

This fact is not obscured by the impracticability of the proposals, nor the probability that such proposals would result in a more severe servitude than the one under which they must labor at the present time. It is not wise to neglect the fundamental reasons for such proposals and the bearing they have upon the present conditions of social unrest and disturbance.

Individual Value a Necessary Consideration

While the social organization has paid more and more attention to the development of the individual, the industrial organization has been paying more and more attention to the mechanics and less to the individual. Education has been fitted gradually to the needs of the weak and the strong intellect. Science has been busy with the improvement of the health, the development of the weak, and the safety of all individuals. Industry by its mechanistic organization has been occupied with bringing the requirements of a particular craft to a level of machine operation. On the one hand we have been teaching the individual his responsibility for development and how to develop himself. On the other hand we have been showing him the economic futility of that development, by equalizing industrial operations downward, so that they could all be performed by the least intelligent.

The growth of trade unionism and socialism is the

direct result of the lessening of individual value in the industrial organization. The greater degree of uniformity in the demands upon the skill and in the character of the reward have brought about the class solidarity that affords such a good basis for collectivism. It is certain that the strength of the future social organization will depend very largely upon the more intimate study of the relation between work and man, and the extent to which it can improve itself without disaster will be directly in proportion to the intelligent understanding of the necessities of individual development.

CHAPTER IV

MODERN SOCIAL AND INDUSTRIAL INTER-DEPENDENCE

National Economic Interdependence

Before the beginning of the war, few men in this country believed that there was sufficient interdependence between the United States and the foreign countries to disturb this nation if other countries went to war. The 3,000 miles of ocean, the resources of this country, its exportation of foods, and so forth, were pointed out as the great reasons why this country was self-sufficient and self-supporting. Yet when the war broke out, the net result was one of the greatest financial disturbances this country had seen since the Civil War. Even now there are few people who appreciate the dependence of the United States upon the maintenance of production and distribution throughout the civilized world. Peace arrangements and the tremendous questions involved have been made the play of party politics as though our action was an obligation to ourselves only.

Economic Interdependence between Political Units

It is the same within the industrial organization and the social organization in this country itself. Despite the fact that communication and distributing facilities are the arteries and nerves upon which depends the maintenance of society, we are still more concerned with the political division than we are with the efficiency of this work, so communication is restricted and distribution hampered

while the politicians argue and compromise, the committees investigate, and the dissatisfaction of the people grows. For years we have piled regulation upon regulation on the distributing facilities, with a careful discrimination between the rights of the state and the rights of the nation, but with little understanding of the necessities of society. It is true that our actions in this respect are the result of the unscrupulous manipulation of the railroads and public utilities of a somewhat earlier period, but those injustices were neither so great nor so far-reaching as the injustices imposed by the failure to recognize the dependence of every citizen upon efficient and cheap distribution. At the present time there is hardly a single portion of our system of communication and distribution sufficiently large to take care of the necessities, and it is likely that the most important of them are so far behind their requirements that it will take years to build them up.

There is no evidence as yet that any real comprehension of this interdependence exists and acts as a force in directing the operations of more than a very small number of the leaders in the various countries. It is evident that there is no general comprehension of the fundamental facts, and the unrest of the people still finds its expression in the interruption of production, in the further inefficiency of transportation, and in attempting to cure the deficiencies of the present system by enlarging its troubles.

Prospects for Readjustment of Ideas

The complex character of the social organization and its interdependence demand an understanding of the moral and practical necessities, beyond the capacity of the leaders and the ability of democratic peoples to put into action at the present time. It is not without reason that the best government leaders of the various nations and economic

groups have feared any serious interruption in the production and distribution, that hold together the present social organization, and have been willing to compromise upon any basis, not entirely unjust and impractical, in order to avoid any serious failure of this kind. It is in the political arena, perhaps, that the failure to comprehend the significance of this interdependence is exhibited most thoroughly. Negotiations between nations, the character of the discussions in the attempt to provide a peace treaty, and the attitude of many nations upon the formation of an economic league, show little departure from the idea that nations are sufficient unto themselves and may by their dominating influence control, to an effective degree, the outside necessities for their own continued social operation. There is no need in a work of this kind to specify the political actions illustrating this point.

It is clear, however, that the various economic groups within the social organization of the country, and the various political units, do not act from a proper understanding of the necessity for production and distribution at a certain definite efficiency. Their actions are rather concerned with their position within the group and the seizing or holding of as much reward as can be obtained or maintained.

Conditions in One Country Communicated to Another

Since the end of hostilities, one or two leaders in each of the countries have stressed the impossibility of securing normal conditions in any country so long as other countries are suffering from lack of production and distribution; but there is no evidence that this reiteration and emphasis is considered important by the peoples of the various countries, or that its fundamental character is properly understood. The actions of manufacturers, poli-

ticians, and labor union leaders indicate a lack of understanding as to the fundamental character of this interdependence and the obligation it imposes upon every worker, every manager, and every employer for a measure of service in full proportion to the interdependent necessity. Unless our understanding of this interdependence grows more rapidly, so that we act in accordance with its necessities, the demand for government action will increase. The very necessities themselves will enforce an extension of government activities into all kinds of operations, so that there may be a practical tendency towards socialism where there is no intention of accepting it.

Comprehensive Co-ordinative Regulation Required

Despite the fact that production is limited by the capacity to distribute those products, and despite the warnings as to the condition of transportation, we have not yet adopted a constructive policy with regard to transportation necessities, nor will we permit private ownership to adopt such a policy.

We have seized upon the deficiencies of private enterprises sufficiently to subject important elements in production and distribution to a series of regulations removing the usual incentive and retarding the possibility of action. We are not yet sufficiently convinced of our dependence upon these elements, to see the necessity for embarking upon broad and comprehensive methods of extension and development.

Our present comprehension of the matter and our present intellectual approach to the subject of production and distribution places a premium upon underproduction, and tends directly to maintain a state of unbalance between the necessities of the population and the methods of production and distribution.

In the era of rising prices occurring after the war and during the war, we have discussed a great many times the "vicious circle." If it were a circle the situation would not be so bad, because the requirements of the population and the results of production and distribution would balance, even though the amount of money required to maintain this balance were larger. The trouble is that the ascending scale is a spiral, through which a considerable period of time elapses before the increased price secured for a commodity reacts upon the production of that commodity and the wages received for that production. At no time is a state of equilibrium established, and the machinery of production and distribution is always unbalanced and always out of order to some extent.

The Individual's View of His Obligations

Fundamentally the trouble lies in the fact that we recognize the dependence of other people upon our work, without giving the same definite recognition to our dependence upon other elements in the social organization. The cotton farmer is quite willing to recognize justice in the automatic rise of the price of cotton in the face of an increased demand and a limited supply. That does not prevent his cry of profiteering when he finds that his tools, his clothing, his furniture, his farm machinery, and his farm labor demand more at his hands. The manufacturer insists upon the clear justification for his own increased prices in the increased cost to which he is subjected. That does not prevent him from accusing those who supply him, of securing an unnecessary profit, nor does it prevent him from reducing their prices as much as he can, while maintaining his own. The worker points to the cost of living as a clear justification for his demands for higher wages, and at the same time is vociferous in his objection to the

profiteering of those who supply him with his necessities. Furthermore, there is no group of producers and few individuals but will endeavor on a high-priced market to hold out sufficient quantity of their product to maintain their market, so that it is not until the consumer refuses to buy his customary quantity and limits his necessities the reaction of prices takes place.

Influence of Supply on Reward

This means that while wealth is based upon production and distribution and can only be increased by more production and more distribution, there is no incentive for the individual producer, whether he be farmer, manufacturer, or worker, to provide more than the market will absorb, because the extension of supply reduces the reward he will secure as the result of his labor. It is idle to talk to the worker about the wealth that lies in more production, when he has been taught by many years of sad experience that the price of his labor goes down when there is an oversupply of product and the markets will not absorb it. It is useless to talk with the farmer about more acreage, more crops, when he has learned by his previous experience that the more he sows and reaps, the smaller the price he secures for his product. Even the manufacturer shuts down his plant when business is dull because he knows that so far as he is concerned personally, there is no money unless the market will immediately absorb his goods.

It was stated in a previous chapter that we have placed a premium upon the interruption of labor unions because we have constantly rewarded the interrupter with higher wages. In just the same way we are placing a premium upon underproduction, because we pay for the scarcity and refuse to pay where the product is plentiful.

There is no general comprehension of the fundamental necessities of the complex modern industrial organization and what is involved in maintaining industrial populations such as exists in our modern cities. The worker and the farmer control the majority of the votes in any modern democratic country, and for these two there is no incentive to produce more effectively, because the larger production does not increase the reward correspondingly. There is a better comprehension of the necessities of this interdependence among the managers and owners of industrial establishments.

The engineer, in considering production, has based his estimate and his methods upon the equipment and the mechanical development of organization. The social organization has grown up with its economic development based upon systems of valuation and methods of operation that grew up in entirely different conditions and were more suitable to those earlier necessities.

Demand for Government Action

It is probable that for a number of years in the immediate future, there will be a demand for the extension of government activities in the control of industrial operations and the limitation of the free development of the present system. The difficulty of getting a sufficient number of people to act in accordance with the requirements, makes even the leaders despair of anything but regulation. We find, therefore, the head of a great banking institution demanding the return of the railroads to their private owners, and a few months later demanding government assistance to permit these railroads to secure the funds for their up-building. We find a leader in the industrial field pointing out the absurdity of government ownership and regulation, and a little later this same man

is making a request for the government to regulate in order to relieve the situation. The problem has grown to such dimensions that it seems impossible to secure any results, within a reasonable space of time, by the voluntary action of the individuals concerned. In the meantime, the difficulties under which we labor, the unrest and the quickened aspirations of large sections of the population, emphasize the call for government action.

In Great Britain and other European countries, there is no doubt that the governments will be called upon to extend their activities in many directions. Government machinery for arbitration, government supervision and control of housing programs, railroad ownership by the nation, and other matters, are acute political questions in some of these countries, while in other countries the control has extended beyond these points already.

The very necessities confronting Europe require a concerted action that cannot be secured in the present state of understanding by any agency except the political unit. Events will indicate clearly in a few years, that the new nations arising out of the war were obliged to start with government activities much broader and more comprehensive than those customary in the older nations, because only the government agencies were able to work out the difficult questions of credit, capital, foreign markets, and other matters so essential to their development as nations. Undoubtedly, this is to be an era of experimentation in the employment of government agencies for the control of economic matters; and even in this country the platforms of the various political parties are likely to contain more economic developments, and to suggest a greater measure of economic control. These developments will not rise from a larger understanding of the fundamental interdependence, but simply from the more

acute character of the immediate problem. There is no evidence that any political or economic leaders have arisen as yet whose understanding of the practical necessities of co-operation is sufficient to outline clearly the principles upon which it rests.

Sweeping Nature of Interdependence

So long as the interdependence existed between neighbors and individuals of the same community, and extended only very slightly beyond their horizon, the co-operation was checked and balanced by the intimate knowledge of the individuals, who were mutually dependent and of the circumstances upon which their mutual obligation rested. Under these circumstances the human understanding and the practical requirements of co-operation coincided equally and the problem was neither abstruse nor difficult.

Today the interdependence is likely to include half the world, and there is no direct mutual obligation between neighbors at all, from an economic standpoint. The writer who lives next door to the importer of foreign produce has no visible economic obligation to his neighbor. The personal obligation is entirely social. To trace the economic obligation that really exists would carry it through a series of transactions over a great area, involve a lot of people of different races working in different countries, and it would not only pass the comprehension of the individuals concerned, but it would not have the slightest influence upon their actions, in their various associations.

When the saddler, weaver, the cabinet maker, and the butcher lived next door to each other, and not very far from the farmers who supplied most of their needs, the mutual obligation was easily comprehended and consti-

tuted an active element in all their business transactions. As it stands today, personal obligation is confined within almost the same space, but the actuality of interdependence has extended itself over areas that usually involve, not only a number of communities, but a number of different political units.

This extension of the mutuality of dependence far beyond the area of understood obligation, has brought into existence problems of a character so complex and so difficult of solution, there is a natural tendency to refer many of them to the broadest agency we possess—that is, the government. There is a constant pressure exerted upon the government to increase its control, to enlarge its regulation, and to exercise a closer supervision over the economic matters involved. In every industrial country this tendency is marked and is unmistakable in its character. It varies in degree in its present development, but in each country the pressure exerted for the increase of government activity along these lines is great and further growth in this direction is to be expected.

Friction between Group Organizations

The degree of interdependence demands a conception of the basis upon which the practical efficiency of this mutual operation depends. The difficulty arising out of the attempt to fit the old social conceptions to the new social requirements is seen in the group unrest and the group warfare. The knowledge of common interests and necessities does not extend sufficiently to co-ordinate with the actual practical requirements. The sense of common interest has extended sufficiently to result in the formation of groups composed of workers, professional technicians, political theorists, and sectarians of all kinds, economic and political; but these groups are engaged in a continual

attempt to seize advantage from one another or to consolidate the privileges they already possess. They do not see that this continual strife for advantage between groups mutually dependent, for even the necessities of life, keeps the whole social organization in a state of turmoil and in an unbalanced condition.

There is some comprehension of the fact that interdependence between individuals requires a common moral understanding and a fairly reliable moral basis of action. The whole fabric of modern industry is based upon these commonly accepted moral practices, and the social organization of the populous industrial countries is possible only because of these accepted moral standards. The mutuality of contract and the sacredness of obligations, the common standardizing of practice and acceptance of credit, and the obligation of production value, are all practical industrial definitions of the moral ground work of fair dealing and trust upon which they are based.

Group Organizations' View of Moral Obligations

The groups of individuals with whom we are all aligned in one direction or another, are not organized upon any understanding of this moral basis. They are frankly engaged in the warfare of advantage and not in increasing the mutuality of practice and understanding between one group and the other; although it is true that they have advanced for themselves and for each individual within the group, some understanding of the moral obligation of one to the other. No matter what sense of honor the individual laborer may feel in dealing with the members of his craft, there is no evidence that the labor union policies have been governed by any such consideration. No matter how careful the manufacturers' association is to recognize the obligation between one manufacturer and

another, the attitude towards labor and politics has not evidenced the same understanding of moral principles. The connection between a man's social morals and his industrial morals has been lost sight of, and there is no recognition of the fact that a completely interdependent society cannot continue to exist unless these moral obligations are co-ordinated. Of the mine owner who lives in a pleasant eastern city and is socially impeccable in respect of the understood conventions, there is no criticism because the mining camp which he owns 500 miles away has provided nothing but work and bad housing for its men, and has made a profit, not only out of the work, but out of the bad housing and food and other necessities which the laborer has been obliged to use. The labor leader who encourages the policy of intimidating scabs does not find any reaction among his social acquaintances.

Industry's Disregard of Society's Advancement

The expressed obligations representing the moral advancement of the social organization have become so separated from the industrial obligations, that there is no co-operation between the two and the social rewards are not in any way related to the business morality.

This was not so in the earlier social organization before the factory era, except in regard to the privileged minority, against whom the political disturbances of the eighteenth century were directed. Except these few land owners and rulers, the craftsman who made and sold the production owed his social standing to the skill and quality of his work and the probity of his transactions. Even the ruler or land owner understood his obligation to care for his people in return for the privilege of leadership.

Because of the wide area covering its operations and the complex character of its processes, modern industry

has lost the social check which was placed upon the craftsman. The ideas of the social organization have advanced so that the accepted conventions require a better understanding of the moral basis of co-operation. The morals of industry have not advanced in proportion and they are no longer governed by the social checks automatically applied in the older form of organization. The greater degree of mutual dependence increases the necessity of a straight moral basis governing all the transactions upon which the mutual existence depends.

Some recognition has been given to this necessity in the recent demand for the square deal in business, in the recent attempt to justify industrial operations on the basis of their social service, and in the tardy recognition of the interest of industry in transportation and in political questions; but these indications have not yet operated sufficiently to change the general aspect. They serve rather to emphasize the absence of what they suggest.

Labor's Groping for a Remedy

Meantime the separation of the social from the industrial side of the political organization has led the dissatisfied people into a suspicion of the whole political machine and a desire for a new social plan. Out of these have been born the Soviet rule in Russia, the strength of the Labor Party in Great Britain, the experiments in Australia and New Zealand, and the general unrest that is disturbing the comfortable reactionaries so thoroughly. Even a statistical observer like Babson suggests in his commercial report that we need a religious revival to cure the industrial unrest.

There is no doubt that the complex character of modern society with its intricacies of interdependence requires an intelligent moral understanding for its practical operation,

far beyond anything we have exhibited so far; and its future continuance without disaster will be contingent upon the growth of the moral understanding more than upon any other factor.

CHAPTER V

EDUCATION AND INDUSTRY

Education in Earlier Times

The great educational factor in the lives of the mass of humanity has been the prod of necessity. In fact, for the majority of human beings there was no book learning until less than a century ago. When the home was the industrial center, it was also the great educational center. The economic activities centered about it, and every individual had his or her place of usefulness in the scheme of development. The children were trained in it. They learned their natural history from the farm and the field, their mathematics from the loom and the scales, their history from the family tradition, and their capacity for thought from the growth of material into useful products under their eyes and hands. Comparatively their equipment of information was small, but everything they learned expressed itself in understood relations. Their comprehension covered their necessities and their judgment was sufficiently broad for their social interdependence.

Book learning and the educational institutions were for the privileged few—those who were called upon by their position to direct the destinies of the social and political units. The traditional methods of education governing all the institutions of higher learning have come to us from this period and are still governed very largely by the consideration of an entirely different social organization from the one in which we are placed. These traditions, as to the character and the conditions of education, have

molded the extension of this education to the general mass of the people.

Limitations of Modern Education

An examination of the development of the system of education shows how little consideration has been given to the fundamental social changes, and the relation of educational requirements to these changes. At present the child is brought up in a social organization so complex in its development that it is utterly bewildering. The home in which he lives has changed from the industrial center, to a place of shelter in which to while away a few leisure hours. It has passed from the great educational institution, in which every piece of work had its understood relation, to a place that has no visible connection with the social organization as such, with the educational institution in which the child is trained, nor with the economic labor he will undertake after his training is finished.

These three things—the home, the educational institution, and the industrial occupation—have no visible connection. They do not present themselves as orderly developments in the progress of usefulness, and the character of the one has little visible relation to the character of the other.

The discussion of education is characterized by something of the same confusion attached to the discussion of political and general industrial movements. The understanding of what is meant by education is somewhat vague in the minds of many of the writers, who discuss it in connection with industry, and the necessities of education from the social and political standpoint are not understood in their relation to the industrial development.

Education Still in Experimental Stage

It must be remembered that education in the modern and the general sense of the term has been attempted for only a few generations, and it has been attempted only during the greatest period of social, industrial, and political change the world has seen. It is impossible, therefore, to determine the educational values of the systems that have been adopted, or the significance that must be attached to the general results of the experiments so far. Even if the social organization had remained upon a more or less stationary basis during the development of the experiments in general education, it would require a number of generations to determine the relative values of different methods and the relative importance of different elements of education, but when these experiments themselves had been introduced during fundamental, social, and industrial changes, it is obvious that the net effect of these changes and developments cannot be determined in the immediate future.

When, however, a particular conception of the word "education" is made the background of discussion, it is possible to see what effect the changes in the industrial and social organization have had upon the necessities of such education and what changes must be made in the methods at present in use, in order to meet these necessities. It is unfortunate that we have used the word "education" and the word "training" as though they were synonymous, and because of this usage have dealt with the subject without the necessary discrimination between the purpose and the requirements of each.

The word "educate" should be used in the sense its derivation would suggest—the sense of bringing out the latent qualities, capacity, and individuality of the mind—while the word "training" should be used to indicate the

development of proficiency or skill in the operation, or the working out of a particular matter. When these differences are studied it becomes obvious that we have developed the training to a much greater degree than the education. Our efforts have been directed for the most part to the training of the individual in the rudimentary requirements of what are termed the three "R's" and other subjects, and then the continuation of this training in order to adapt it to the required skill for the performance of work in a given occupation.

The Mental Training Derived from Occupations

But this is not the most serious part of the difficulty. In the earlier social organization in which the production was done almost entirely by hand-work, the education and the training was supplied to the majority of the population by their work itself. At the same time, they received their training in the occupation they were to undertake, and their education from the scope and necessities of this occupation. In this respect, the education was strictly economic in its character, but the scope of the work and the very necessities of the occupation required a degree of education (that is, the bringing out of the qualities of the mind) not required by the majority of the present-day occupational pursuits. Although we have made tremendous advances in the organization of scientific knowledge and in the development of many subjects little known before the beginning of the industrial era, and have opened up, for a small portion of the population, wide fields of investigation and intellectual development as a part of the necessity of their work, these things do not obviate the previous conclusions.

The amazing developments that have become possible through the work of the engineer, the chemist, the biolo-

gist, the physiologist, and others, have affected the social organization very deeply and have resulted in a constantly increasing complexity in the growth of modern civilization. The intellectual development that has come from these advances, however, has been confined very largely to the men who were engaged upon them as their life-work. They have not added materially to the education of the majority, who feel and see the effects only in the bewildering complexity of modern life. For the artisan and the craftsman of the earlier period, the skill and knowledge required by the occupation were sufficiently wide in scope and related in character, to provide an education that necessitated a development of the intellectual quality as well as the skill.

To the descendants of those artisans and craftsmen who are today the operators of a machine, the training given in the schools has little or no bearing upon either the occupational requirements or the economic condition. The character of the work he must undertake for his daily occupation, is not in itself conducive to bringing out the qualities of the mind, nor does it suggest the necessity for a larger understanding.

For the majority of people, only those things are remembered which are of use in their occupation or in connection with their social surroundings. The rest is forgotten or, if not entirely forgotten, has no influence in the development of the mental capacity or in the moral action.

General Ignorance of Economic and Social Machinery

Little of the work that is done faithfully in the public schools, finds a practical application in the occupational requirements of the large majority of that 90 per cent who leave school at from twelve to sixteen years old. The

occupation itself in a majority of these cases is too limited in its scope and too repetitive in its character to call for a continuous mental improvement. As a consequence, neither the initial training in the school nor the occupational necessities contain much of the true education. Yet there are the ones who represent a majority of the votes, upon whom depends the character of the social organization and to a large extent the tendency of the future industrial organization! They do not understand the industrial organization of which they are a part. Even the significance of the operations upon which they are actually engaged is not understood in many cases, because they catch only a momentary glimpse of the product as it passes through their hands in the course of the long processes of fabrication. Neither is the social organization any more simple to their understanding. The interdependence of modern life, the cost and difficulty experienced in keeping the economic structure reasonably balanced, the ease with which a part of it could be destroyed and the terrible effects of that destruction, are far beyond their possible comprehension. Its complexity confuses them, the difficulty of understanding it only arouses their fear and suspicion, its inefficiencies are visible, but the slow possibilities of its improvement they cannot hope to visualize.

These individuals know that the subway and street-car systems are poorly handled and overcrowded, but they do not understand that to bring these systems into co-ordination, the requirements would mean, not merely a vast outlay, but the consumption of a long period of time in securing a balance between requirements and production, all the way back to the mines, through every manufacturing process. They know that there is a shortage of this or that or the other product from time to time and that it

becomes difficult to secure some of the things they need, but they do not understand the number of industrial operations that must be developed and the number of distribution systems that must be made more efficient in order that these products can be supplied in the proper quantity.

In the older organization the education and training was supplied by the work itself and the work fitted into the simple character of the social organization, so that it was not difficult for the craftsman to understand the significance of his work, to improve his mental quality through his work, and to see the relation between the work he did and the social organization of which he was a part. The matter is very different today, the work done in the public schools has only a slight relation to the necessities of the man's occupation; it relates far more thoroughly to the social organization, but even there it touches the situation only in a very rudimentary way. The work that the man undertakes has no visible significance or connection with the social life of which he forms a part, and there is no incentive to mental development in a very large proportion of the work that must be accomplished.

Effect of General Intelligence on Government

When these things are taken into account, it becomes evident that the educational systems have fallen behind the necessities for education required by the complex character of the present organization. The industrial power in the hands of these workers is increasing and the history of industry in the last fifty years shows that increase very definitely. It is not surprising that this power should be used unwisely, as the education secured is so inadequate to a proper understanding of the responsibilities that come with the increased power. It is rather amazing to the impartial observer that the power should have been used

with so little recklessness in comparison. If this complex civilization continues to include many elements passing the general comprehension, the whole structure will be in danger and may at any time suffer from a disaster greater than any we have experienced. In this country, the matter is made more complex by the number of different races comprising our population.

Orderly government, whether in the political unit or in the industrial part of it, can be secured only by the general obedience to those who understand, or by the improvement of the general comprehension until the understanding is widespread among the affected population.

Requisites for Proper Government

The old system of industrial and political government was that which required a general obedience to the leader who was supposed to understand, and in effect this was the autocratic method. This has gone by the board politically, and has been discarded to such an extent industrially that it cannot be considered under present conditions. If the organizations of workers are to have their say about the government of industry, and if the people are to govern politically, it is necessary that they should possess a sufficient understanding of the social organization, so that they may be able to choose wise representatives and leaders and so that there will be some co-ordination between the requirements of this complex society and the methods adopted to continue its advance.

So long as political units were governed autocratically and the general population was obliged to obey the mandates of the autocrat, education for them except in respect of their working skill was not important. So long as industry was governed autocratically by the owners of industry, and the workers were obliged to accede to the

rules and demands of the owners, their education except in respect of proficiency at their labor was not necessary to the continuance of the system. Now, however, that the government of the political unit lies in the hands of the whole people, and there is a tendency to limit the power of their own representatives, it becomes necessary that the work of educating should be carried further, should bring out the qualities of the mind, excite the mental curiosity, and give some comprehension of the social structure. Otherwise government would be chaos, either through the impossibility of agreement upon important matters, or through the further difficulty of securing representatives who themselves understand. The same thing is true in the industrial world. Since the trade unions and the organizations of workers of other kinds have secured more power and must be considered in the operations of industry, it becomes necessary that the worker should be trained, not only for his work, but that he should have some comprehension of the industrial structure lest he use his power unwisely and the structure be damaged in the process of readjustment.

Extent of Progress in Education

Taken by itself, our education has progressed amazingly in volume and effect in a few generations. More people can read and write in these days than at any other time. More people understand the simple requirements of healthful living than at any other time, and more people are enabled to indulge in their taste for all kinds of relaxation and entertainment than in any other time of history. But after all, the ability to read and write is not in itself a good thing. It is good only as it is used for proper purposes. If it is possible to spread knowledge because so many people read, it is also possible to spread passion

and hatred and other destructive suggestions with the same ease. If more people are able to write and influence others by their writing, there is no value in this addition to the forces unless they are concerned with increasing the understanding, improving the co-operation, and sowing the kind of concord necessary in a complex interdependent state like the present. It is an excellent thing that more people know the simple rules of health, provided that this knowledge is used for the better service they can render and not merely to strengthen their hold upon their own position.

All these advances have been in the equipment of education and not necessarily in the education itself. After all, the ability to read and write, the ability to discriminate between the history of different countries, and the ability to recognize the simple fundamentals, are only the mechanical equipment of the mind by which the latent qualities can be brought out. Mr. Swift in his book, "Psychology and the Day's Work," points out that, for the majority of people, the term "we think" should be "we think we think." It is thinking that is necessary, the improvement in the understanding that is important, and so far neither the general education nor the industrial education has been conducted with the primary idea of encouraging thought, but rather the primary idea of providing the equipment for skill.

Not only is this the case, but even in the higher realms of education so much time and attention has been paid to the details of the different subjects and their operations, and so large a bibliography has grown up in respect of the operations in each particular department it is possible for a man to go through an extended education in the more advanced sciences connected with industrial and social necessities, without having understood in the least the

relation these operations bear to the rest of this complex organization.

Relationship between Home, Occupation, and School

The progress of the social organization must be made as a whole, however, if we are to continue its development without disaster. This separation of the home, the occupation, and the school, until they possess little or no visible connection with one another, has altered the whole aspect of industry, and politics in relation to industrial questions. The co-ordination that existed between the education, the economical requirements, and the social necessities has been entirely lost and for the vast majority of people does not exist. The effect of this is seen in the constant struggle of different groups of the population to advance their position as a group, without respect to the difficulties such advancement may impose upon the whole structure, and therefore the limitations that may be put upon their own development.

The difficulties under which the farmer works may be a sufficient reason for reduction of his producing activities, but the farmer depends too greatly upon the industrial life of the country for him to benefit by an extended program of this kind. The labor leader who calls men out on strike may have a great deal of justice in the demands he makes, but the position of the labor unit cannot be benefited permanently by keeping products away from the rest of the population. The capitalists may be taking advantage of the situation and governments may be imperialistic in their tendencies, but no benefit is likely to arise from the destruction of the system, because of its deficiencies, at least not to those millions who depend upon the continuance of the present system for their lives.

Inadequate Social Checks on Industrial Morals

Socially, and in respect of our social obligations, our moral understanding has advanced so that we live with our neighbors and as nations with a reasonable degree of order and without much individual warfare. The social checks established under the previous type of organization and which preserved some sort of decent parity between the social conventions and the production morals, have disappeared through the enormous changes we have made, and through the entire separation of the social life, the school life, and the industrial life from each other. We have been unable to institute the proper moral checks upon the new industrial organization, except in so far as they have concerned the general matters common to the political unit. Even in these cases, the checks we have established have been prohibitory, negative and not positive, and they have lacked the constructive effect necessary, if the system is to function in the future with the required efficiency. The older social checks were more positive in their action. At that time, the social reward was so directly related to the skill and quality of the craftsman's work, that there was a positive incentive to better workmanship and a positive incentive for a larger measure of productive value.

Industry's Neglect of Moral Standards

At present there is no direct training in the necessary morals of industry, and the only moral training which exists has no visible connection with the industrial life. Our mutual necessity is so great, however, that it requires a moral basis and a community of moral understanding, in order to function in such a way that it will fulfill the demands of our present civilization. In fact, some of the old standards of morality in business upon which this great

industrial civilization was built, have depreciated and are not recognized to the same degree.

The mutuality of a contract, one of the fundamental bases for credit operations, has been so badly shattered in the course of this growth that it no longer exists in the simplicity and strength originally characterizing it.

The dependence upon these moral bases, however, has increased tremendously. Every necessity of life passes through so many hands and is carried over such a wide area in its journey from the beginning of production to the beginning of use, that the mutual responsibility must be recognized to a much greater degree and according to a more severe code, if the operations are to be continued so that they will fulfill the necessities. The moral basis of mutual responsibility arising out of the mutual necessity has been entirely neglected in industry, in its general progress in the last 100 years. Particularly in the relations between employer and worker this mutual responsibility has not only been neglected, but has been repudiated. The employer who cut the piecework rates when the workers made too much money, succeeded in destroying any sense of mutual responsibility or the mutuality of a contract in the minds of those workers. The employer who refused to provide decent buildings, decent sanitary equipment and living conditions for his workers, repudiated the mutual responsibility that actually exists, and laid the foundation for the present reckless character of the struggle between capital and labor.

The labor leader and the union men who refused to allow a non-union man to work were guilty of the same moral error, and in the same way labor organizations that demanded, without any concomitant agreement as to their responsibility, failed to recognize this basic principle.

Nevertheless, the greater responsibility rests upon the

employer. The governor or leader, whether in industry, politics, or religion, must, by virtue of his leadership or his governing power, express a greater sense of moral obligation than those whom he leads or governs, if the organization is to remain intact and to proceed with the necessary development.

Industry the Important Educational Factor

Industry still remains the most important educational factor for the great mass of people, and the education they are securing at the hands of modern industry is an education from which industry and the present social organization are likely to suffer, unless new conceptions arise and new efforts are made in the right direction.

In the main, industry is responsible for the limitation of production by the worker and for demands that show no indication of any sense of mutual obligation. Industry has refused to allow the worker to take any responsibility either in respect of the conditions of his work, the rewards of his labor, or the development of his production equipment. The history of industry shows that it has constantly acted in such a way as to prove its lack of any sense of obligation towards the worker. It is not surprising that the worker should have been educated to believe that he has no responsibility beyond the bare necessity, and no obligation except that which he is forced to observe.

This situation accounts for the insistence of the demands of labor, for the ruthless definition of its objects, and for the exacting character of its pressure. The condition presages severe difficulties for the future of the present complex organization, unless entirely new ideas are considered as to the moral basis of mutual necessity and the educational effort of industry emphasizes the mutual responsibility it has formerly repudiated.

The education received in the schools has little or no bearing upon this matter, and it cannot have much bearing because it has no direct relation with the industrial life. The home has entirely lost its place as an educational factor, except as to the social conventions and similar personal obligations of the individual to the social organization.

The character of industry in the future will be determined by the character of education it gives to its workers, whether this education be organized, or unorganized, and it is not unlikely that the stability of the present type of civilization will depend greatly upon these developments.

CHAPTER VI

MANUFACTURERS' ORGANIZATIONS

Inception of Manufacturers' Organizations

The growth of trade unionism as indicated in the first chapter of this book, the difficulties arising from lack of standardization, and the evils of unrestricted competition, brought into existence manufacturers' organizations in various lines of industry. These were concerned very largely with the standardization of material and methods; the elimination of excessive price competition; and the defense of the manufacturer against the growing power of the trade union organizations.

These manufacturers' organizations have had a very great influence upon the development of industry, and particularly upon the controversies between capital and labor. They have extended until they exist practically in every field of specialized operation. In most lines of industry they comprise a large majority of the employers or corporations in those lines. In the earlier days of their growth, these manufacturers' organizations were very secretive in their methods. They attempted to control the labor situation to their own advantage, in just the same way that the trade unions attempted to accomplish the same thing.

Standardization of Prices and Methods of Production

All the work which was done by these co-operative organizations in the standardizing of materials and methods, had a tendency to reduce the competition and to standardize also the sales prices where the product could be brought

to an effectual similarity. Free competition is based upon the individuality of the product, and every method of manufacture which tends to eliminate the individuality has a tendency to restrict the competition to price, and therefore a tendency to create standard prices.

In a great many lines of staple business, the individuality of the product has been eliminated to such an extent that the origin of a product is not very important, and the variation in price is the most important reason for its accumulation to one particular industrial unit or another. The most important effect of these organizations of manufacturers has been in the general tendency to standardize methods of production and as a consequence to establish a substantial uniformity in the various practices of any specialized occupation.

This uniformity in its turn has tended to establish a uniformity in the rate payment, so that there was no difference between the individual members of a craft and little difference between workers in the same occupation in different localities. The use of the power of manufacturers' organizations to combat the power of the trade unions has accelerated this tendency, because it has required a collective agreement between the manufacturers very similar to the collective agreement between the members of the trade union. It is true, the employers have never resorted to picketing an establishment which refused to act in agreement with the decision of the organization. Nevertheless, pressure has been exerted to keep these individual members in line so that the policy decided upon by the group could be carried out effectively.

Methods Used

In principle, there is no difference between the actions of manufacturers' organizations upon labor matters and the

actions of a trade union. The group of employers are concerned with maintaining as much control of the labor as possible, while the group of workers are concerned with establishing their own objects as far as possible. Both organizations have been built upon the necessity for protective measures and have considered their organization value from that standpoint. Some of the most notable organizations in this country and in Great Britain, comprising groups of the most important manufacturers in industry, have been concerned almost entirely with the labor question and almost exclusively occupied in fighting trade unions. Just as the trade union has confined its efforts very largely to fighting the employer, so the employers' organization has been concerned very largely with fighting the union and has not gone very deeply into the study of the labor question or the development of the fundamental causes of unrest and dissatisfaction.

It is obvious that these organizations have contributed just as much as the trade union to the definition of the conflict between labor and employer. Their actions have tended to sharpen the issues and to increase the bitterness and suspicion. This has arisen mainly because the actions of these collective bodies of manufacturers have not been based upon a study of industrial organization, knowledge of the attitude of the worker, or any attempt to analyze the fundamental causes of industrial unrest. They have been based upon the necessity for fighting strikes and other interruptions, limiting the labor union, if possible securing its elimination, and for maintaining their complete control over the conditions under which the worker will operate. The National Association of Manufacturers in the United States was for many years a conspicuous example of this type of collective organization. Its officers were noted for their antagonism to the

trade union, and its influence was exerted continually to limit the growth of the trade union, to eliminate it from consideration, and to retain in the hands of the manufacturer the control of all questions of wages, hours, and other conditions of work. In other words, to maintain the manufacturer in his historical privileges.

Violation of Agreements

Just as there are a large number of workers in many industries who do not belong to any recognized labor organization, so there are many manufacturers in various lines of industry who have not affiliated themselves with organizations of manufacturers in their particular field. Just as there is a considerable disagreement among the rank and file of labor unions concerning the desirability of any particular action, there is the same element of disagreement between the individual manufacturers comprising a group organization. In one respect only do these organizations differ materially in their general effect, and that is in the discipline which they have observed among the individual members. In this respect the trade union has been able to effectuate a much more compact and coherent organization, and to induce a larger portion of its members to stand back of it when any serious action has to be taken. Manufacturers have varied in their practice toward the labor question as members of a group. Agreements have not been binding, and they have been unwilling to forego their competition with one another or their advantages over one another in their attitude toward their labor controversies.

A great deal has been said about the tendency of the trade union to break the agreement made by its representatives, but the history of important manufacturers' organizations indicates that the resolutions passed in these

organizations, the policies agreed upon, have been broken by members with almost the same consistency. Some time ago a local association of building trade contractors, after a controversy with the building trade unions, agreed upon a certain scale of wages and certain hours for carpenters, masons, brick layers, and other occupations. The building trade happened to be very active at that time in that section of the country and labor somewhat scarce. Within one week after the agreement had been made, 75 per cent of the building trades' contractors in the association were bidding against each other and paying the workers higher wages than the agreement called for. It is to be observed that in this case the strike had been settled upon an agreement of wages and hours and that this agreement had been accepted by the labor unions as satisfactory, so there was no cause for the offering of increase of wages to these workers except the desire of the contractors each to gain the advantage over his fellow contractors, to get his work done more quickly, and therefore make more money. The net result of it was that within one month after the strike was settled, most of the workers were getting 35 per cent more than the wages agreed upon at that settlement. The humorous side of the situation was that most of the contractors were still kicking about the high wages.

Intensification of Labor Disturbances

These manufacturers' organizations, partly or completely devoted to the question of settlement of labor controversies, were an inevitable result of the growing strength of the trade unions in many lines of industry. They did not, however, settle anything and the general result of their growth has been to widen the area of a disturbance, by arraying a whole industry on the side of

labor or employer. It is almost impossible to confine any important controversy to a locality or a single establishment in these days. The solidarity of the labor union has been very greatly increased by the development of the employers' organization group. As a consequence, the warfare is conducted more intensively; the advantage secured by one side or another at any time provides the background for a new controversy; and the settlement of any interruption is the basis only for a new difficulty.

In the general tendency to enlarge manufacturers' organizations, the same propositions have been at work as those which have tended to the federation of unions. Just as there are local, state, and national organizations of labor, so we find local, state, and national organizations of manufacturers in the same line of industry. While these manufacturers' organizations do not parallel the trade unions in their methods of organizing and in their practice of arriving at a decision, the fundamental reasons for their development are the same, and the general conceptions which enter into their practice are sufficiently similar to be traced to the same causes.

Relatively, however, the manufacturers' organizations are weaker in the character and method of their development, they lack the solidarity and the compactness of the trade unions, and they have not progressed to the same point in power.

There is a substantial, national agreement between the federal trade unions in various industrial countries, and while there is a more or less indefinite agreement in practice between employers' organizations in the same countries, there is no compact organization and no way of putting into effect the power of the organizations that exist.

Relatively speaking, these manufacturers' organizations

are less efficiently worked out and subject to a smaller degree of control. The events of the past thirty years would indicate how thoroughly these manufacturers' organizations have been outgeneraled by the trade unions, by the way in which they have been forced to accede to the demands of the unions and to the public opinion favoring the workers' side and responding to the union propaganda.

Extent of Contribution to Industrial Development

These manufacturers' organizations have been of little effect in the development of modern manufacturing from a scientific standpoint. The advances made in production have been the result, very largely, of the technical societies, which are, after all, societies of professional workers. The managers and owners of industry have been with few exceptions, contributors to the advance only because of their ability to secure the capital, their shrewdness in trading, and their control of market conditions.

The management of industry has always recognized its responsibility to capital for the profits of industry, but little or no recognition has been given to its responsibility for the worker and the knowledge, the necessities, and the difficulties of the worker. The growth of the banking system and the close co-operation of banking associations, even internationally, have given the banker a control of industrial operations that has emphasized the responsibility of management to produce a sufficient reward for the stockholder, but has no effect in leading to any consideration of the responsibilities of management towards the subordinate.

Manufacturers' associations, boards of trade and chambers of commerce, and other organizations of business men and owners of industry, have been effectual only

in the control of price, in the consideration of general economic conditions, and in the development of co-operative methods of finance and trading. Records of their operations indicate the small extent to which they have contributed to the scientific development of manufacturing or to any consideration of the human factor in industry and the reasons for human difficulties. This is indicated by the unlimited extent of the bibliography devoted to the mechanical sciences, banking, the art of selling, and the mechanical systems of organizations, together with the almost unbelievable paucity of books upon the human side of the industrial question and the human factors in industrial organization.

Whenever these manufacturers' organizations have acted in any conspicuous way in regard to the labor question, the action has been confined to the attempts to win strikes, attempts to control the labor and its price, and attempts to eliminate the labor union.

Profits and Labor Rates

The weakness of these organizations has come from the timidity of capital and the accepted principle of trading depending upon securing the individual advantage in the trade. In very few cases have these organizations proved capable of standing together on matters of price and on labor questions, because the managers and the owners of the particular establishments have been unwilling to forego immediate advantages in trading for the sake of any future and more indefinite stability. It is probable that the manufacturers' group organizations have contributed, more than any other factor, to the concentration of trade union warfare upon the price of labor and the uniformity of that price within the trade unions. They have utterly neglected the variation in the indi-

vidual human capacity and the psychological character of the fundamental human desires. The mechanistic character of industrial development has entered into all their calculations, and they have been concerned more definitely with the maintenance of profit in the immediate future than the stability of the working organization.

If past history is any indication of the future, it is obvious that these group organizations of manufacturers are incapable of settling the labor problem and are ineffectual in controlling the growth of labor organization or limiting its power. This is true, without respect to the fact that they have succeeded from time to time in crushing strikes, and in maintaining their control temporarily. The history of the century of the factory system shows that strikes crushed at one time have been won at a later period by stronger organizations of workers, and that there has been a steady development in the power of labor organizations and their capacity to gain more from the groups of manufacturers.

Spreading of Strikes

The tendency to consolidate industry into two groups—one of employers and one of organized workers—has increased the difficulty and danger of the situation very largely. In the days when industry was less highly organized in this respect, controversies could be confined to a very small area and the effect upon the whole industry was of slight importance. Strikes could be settled without requiring the interruption of so much of the industrial operation or the intervention of so much machinery of organization.

In Great Britain where both groups have been organized for a much longer period of time, it has been impossible for many years to confine strikes to the original

area of grievance. It was fifteen years ago that the discharge of a man for drunkenness on an English railroad involved practically every railroad line in Great Britain and required the efforts of the federated railway unions, the representatives of railway owners, and government officials, before the matter was entirely settled. The outlaw railroad strike which occupied so much of the newspaper space in April of 1920 in this country, originated with the grievance of a yard man in a Chicago railway yard. Co-operative machinery of this kind is valuable only when the objects of the co-operation are constructive. The co-operation of labor with the object of fighting manufacturers, and co-operation of manufacturers with the object of defending themselves from labor, can only intensify the struggle that has been going on. The more powerful these bodies became, and the more thoroughly they affiliate and become centralized, the greater is the danger of disturbance when any controversy arises.

Whatever have been the advantages of the organization of manufacturers in the same lines of industry in the development of industrial methods, competition, and price, they have proved utterly ineffectual in providing any settlement of labor problems and, equally with the trade union system, must be discarded or greatly modified in any attempt to provide a proper human basis of industrial organization.

CHAPTER VII

COLLECTIVE BARGAINING

Definition of Collective Bargaining

Much has been said in the public press upon the subject of collective bargaining, and the discussion illustrates the confusion of mind existing in respect of many of these labor matters. According to much of the discussion, collective bargaining is something new, that it would be desirable for us to have or undesirable for us to have, according to their point of view, but which we do not possess at present.

A very little examination of the matter, however, will indicate the absurdity of this viewpoint. Collective bargaining means the adjustment of matters with a group of individuals or between the groups of individuals, where on each side the groups are concerned with sufficiently similar operations to make their requirements somewhat uniform. In effect, we have had this system for a number of years. It has been customary for us to bargain with groups of individual workers who were occupied with the same industrial operations, and to agree upon a price for their labor. It has been customary for groups of manufacturers to get together and agree upon a standard labor price for the same kind of work in the same district.

Out of this custom has grown the general application of the uniform price for various classes of work or various occupational subdivisions. This collective bargaining, or bargaining by groups, was obviously necessary as industry subdivided itself, in order to avoid the endless

confusion that would arise if the individual worker in each case was employed through an individual arrangement. It would be impossible, manifestly, to maintain a group of employees at work on the same operations for the same purpose, unless the prices for these operations were based upon the same rate, and therefore had the same value in the eyes of the worker.

An Old Principle

However, where there has been no attempt at collective bargaining, the general tendency for prices to standardize themselves and to effectuate the application of a collective bargain is shown in the general tendency for certain classes of office operations to standardize in price and to be based upon the same rate, because of the similarity and uniform character of these operations.

It is absurd, therefore, to consider collective bargaining as a new scheme or as anything which would require examination as an experimental departure in the majority of industries. In respect of a majority of the operations, collective bargaining is here and has been in use a long time.

The present confusion has arisen out of the attempt to apply this general term to the specific types of collective bargaining fostered by different organization ideas. When the American Federation of Labor speaks about collective bargaining, it recognizes only the bargaining between groups of employers and groups of trade union leaders. It does not recognize any other form of bargaining as collective bargaining, and, therefore, the whole propaganda upon the subject is concerned with that particular system, and not with the general method.

Similarly, when the Midvale Steel and Ordnance Company prepared its system of employee representation and

admitted the right of the workers to bargain collectively through their chosen representatives, they were suggesting only the wisdom of the general necessity, and not the value of the American Federation of Labor system of doing it.

Power of Group Bargaining

If the present discussion were tied down to the question of collective bargaining inside or outside of your establishment, the question would be stated much more accurately and some of the present confusion eliminated. That is practically the basis upon which the matter must be considered. Wherever the conditions of operation are so nearly alike that they involve common necessities and admit of a common basic evaluation, collective bargaining will be the only method of dealing reasonably with these workers, and if they are not members of any present organization, they will organize in some way or standardize their demands so that they effectuate a group condition. The question which the industrial manager and executive has to face, is whether it is better for him to set up the machinery for collective bargaining within his own establishment, so that the group desires of his employees can be properly presented and discussed; or whether he will stand by and watch these groups organize with similar groups in other establishments, elect their representatives, and force him to bargain with them from the outside.

It is not a question of whether the industrial executive or the owner of industry like the group plan of bargaining, nor is it a question of their valuation of this plan. Wherever the subdivisions of industry have become sufficiently similar to form occupational definitions, they have led to the organization of the workers into groups or are at present leading to their organization.

The organization of workers of occupational groups into craft unions such as the machinists, the various crafts of the textile workers, the school teachers, and so forth, defines and solidifies the allegiance of the individual worker to the co-workers in his occupation and tends at the same time to limit, if not eliminate, any sense of allegiance to the employers or the managers of such occupational groups.

Allegiance to Employers Lessened

The general history of this development of organized groups shows that it has continually resulted in an increasing solidarity of feeling and action between workers in the same group, but that it has not strengthened the sense of allegiance to the management of the industrial establishments at all. In fact, it has constantly weakened whatever sense of allegiance there may have been, and in all strikes or adjustments there has been a tendency to class the worthy and unworthy employer together, and operate the adjustment without respect to the individual values on either side.

Nevertheless, so long as the manufacturer or the owner of any business establishment refuses to recognize the necessity for collective bargaining and the increasing tendency of all classes of workers who are engaged in similar operations to secure a collective plan of bargaining, he will be faced with a growth in the organization of craft or other unions and a general reduction in the control he exercises over his own business policy and productive capacity. It is interesting to note that in Great Britain the habit of allegiance to the craft and of suspicion to the employer has grown to be so integrally part of the worker's thought, that he becomes suspicious of his own leaders when they urge him to increase his pro-

duction, to accept new labor-saving machinery, and when they point out the necessity for a change in his attitude, now that his power is solidified.

Causes of Collective Bargaining

The whole development of trade unions since the beginning of the nineteenth century has been forced by the necessity for group action on the part of the workers, in order to be in a position to bargain at all. Inasmuch as the owners of industry own also the tools with which individual workers must operate and the place in which the men work, the individual worker ceased to be in any position to bargain with the employer as soon as the factory system came into general use. His position in the matter is that of the subordinate whose chief wanted to transfer him to another position, and who asked the very natural question, "what is it worth?" The answer came back, "I don't blame you for asking, but you are in no position to trade, and I don't propose to tell you."

Of course, this man was a little rough, more arbitrary and blunt in his expression, but he voiced very correctly in that statement the position of the employer and employee as individuals. Since the individual worker ceased to own or control any of the elements of production, he ceased to be in a position to bargain with the employer, and as a matter of self-protection joined with other workers so that the group could become sufficiently strong to put them in a bargaining position. The employer has always objected to the organization of the workers and collective bargaining, very naturally. The essence of a bargain is having an advantage over the other party to the bargain.

As the individual worker was in no position to bargain, he was obliged to accept; the employer had so great an

advantage that he could not be expected to watch the change in the situation without fighting it at every turn. Collective bargaining is not a matter of ethics or moral belief on either side, although it has been discussed of late as though there were deep-seated principles involved in the acceptance or rejection of the idea. It is simply a practical matter, the worker recognizing that only through collective action is it possible for him to bargain at all, and the manufacturer accepting its necessity as he is obliged to. With the worker it is either collective bargaining or none at all, and the somewhat better experience of the past—the struggle the workers had to arrive at a position where they could bargain—makes this matter of collective action a vital question with all workers whose duties are of a mechanical or routine character, and whose individuality is of no value in the competitive market.

The manufacturer has always paid what he had to, and the worker has always secured what he could get. When the manufacturer was strong and the worker weak and unorganized, the manufacturer used this advantage for the purpose of securing his labor more cheaply and under more severe conditions.

As the worker became organized and the power tended to shift to some extent he obliged the manufacturer to pay him more, to allow him to work under easier conditions, and to force recognition of his collective power through organizations.

Manufacturers' Organizations

The growth of union strength in many lines of industry and the advantages secured in the bargaining by the collective action of the workers has led to the formation of groups of manufacturers within the industry,

primarily engaged in attempting to take advantage of the power of collective action on their own behalf.

I have not found any employer, however he might rail at collective bargaining, who was willing to give up his membership in his group organization of employers and act entirely alone—what he really wanted was that the worker should disband his organization. There is no doubt that if employment becomes scarce, the employers will use the advantage in their bargaining, and if workers become scarce, the workers' organization will use that advantage in their bargaining.

Unfair Methods Used

The whole business is based upon the idea that you must be strong enough to protect yourself against the other man, and only by that means is it possible to secure any kind of rough justice. It is the lack of principle involved in the method of collective bargaining which makes it so ineffectual. It is based upon the idea of industrial warfare and every settlement must be a compromise arranged for the moment and until either side can seize sufficient advantage to make it worth while to upset the settlement and demand a new one.

This, in fact, is what has occurred continually and is likely to occur again so long as the arrangements made between employer and employed are made on this basis. In the hearing on a public service strike recently, the attorney for the company asked the attorney for the union, if it were not true that the union had requested an increase which would wipe out the total surplus of gross profit made by the company. The reply of the union attorney was that this demand was not to be taken seriously. It was like the first price in a real estate transaction.

To talk of justice or fair play or other principles of human relations in connection with such a matter is obviously absurd. To the man who knows labor history and the history of manufacturing, or who is intimate with the practical procedure adopted by labor bodies and employers' groups, the continual reference by the leaders on both sides to fair play, justice, and honor must appear to be either frightfully hypocritical or amazing examples of self-deception.

Ideal Spirit of Group Action

The necessity for collective action is not affected by the character of the present methods of collective bargaining and futility of the results. Where groups of men are required to work upon similar operations, demanding the same mechanical or physical skill, calling for the same training and the same routine, it is obvious that the basis of pay must be more or less uniform under similar conditions of locality. In such cases the dissatisfaction with the pay will communicate itself to all members of such groups and they will act collectively for their own protection, without respect to whether they have been organized previously. This necessity for collective action need not be operated under the system which is suggested by the words "collective bargaining."

It can be arranged in such a way that it forms a basis for arriving at agreements that appear to be just and reasonable to both sides, and in respect of which, therefore, they have all the incentive to abide by and honor.

Conflict between Trade Unions and Employers' Groups

It is not possible to do this, however, through the present machinery of employers' groups and trade unions. The organizations involved are not suited to arrive at a

common understanding and purpose. Their methods are not the methods of agreement and they are bound by the necessity of strengthening the position of their respective organizations. These organizations must either submit or control. It is to be expected that the demands of the trade union must increase as their power increases, and it is to be expected that the demands of the employers' organization will increase whenever their relative power increases.

At any particular time, therefore, either trade unions or the manufacturers' organizations must control the situation and they must work for that control. Through the very character of their development and limitation of their organization, there can be no agreement which will be lasting, through their organizations and under these circumstances. Only the individual manufacturer and his organization are working for a common object under a definite set of circumstances and in similar surroundings. Under these conditions, and under these conditions only, there is an opportunity to arrive at an agreement which will appear to be just to both parties and which can be upheld with confidence by both parties.

There are a number of individual examples of the practical success with which this method can be pursued in the industrial unit. In either case it is a collective action. In the case of the present organizations it is collective bargaining, but it may be turned into collective agreement by individual leadership through an examination of the common problem and arrival at a common understanding.

CHAPTER VIII

BALANCE OF INDUSTRIAL POWER

Capital and Labor

The reason for the phrase which constitutes the heading for this chapter is to be found in the history of the factory system and its gradual division into the opposing groups of labor and capital, the latter represented by management. This phrase has been used a number of times in indicating the change that has taken place respectively in the position of the groups. Together with the current discussions in regard to labor, occurring from time to time during the last fifty years, it indicates the essential character of the struggle and the lack of understanding that industry needs agreement, not warfare. There is no indication at present that the leaders of industrial organizations or trade unions have come to any better conception of their collective function, or that an examination of the respective strength was any the less necessary. It is because of the fact that these groups have been definitely opposed in their policies, with the definite object of securing from each other as much control as they could, that the tendencies resulting from this struggle are of considerable importance in their indications of future development. Any examination of this kind, of course, does not mean that a particular program is likely to be followed out in the future engagement of this industrial struggle. It will simply indicate the change that has taken place in the position of the two groups and the probable development of those changes in the near future.

Strength of British Labor Unions

In the historical chapters of this book, the history of trade unions was developed sufficiently to indicate the rapidity with which they had increased in numbers and in power since the introduction of the factory system, and the tendency to be observed in their use of this power politically as well as industrially. In Great Britain before the war, the development of labor union organizations had proceeded to such an extent that the conduct of industrial operations was dependent very largely upon the labor union acceptance of such operations. In many lines of industry, in that country, it had been necessary for the manufacturers to make their deals with trade unions for a number of years, and in these instances practically no open shops existed because almost 100 per cent of the workers were organized.

While the trade unions in Great Britain, therefore, had not secured sufficient power to control the distribution of profits or to alter the general economic system, they had secured sufficient power industrially to control effectually the methods employed and to obligate the manufacturers to deal solely with them in making their arrangements. The emergency necessities of the war which obliged the government to take over and control a large part of the industrial activity in Great Britain, gave the labor organizations the opportunity to turn their industrial strength into political advantage and force recognition from the government. This they proceeded to do. They obliged the government to agree that they should return to the old trade union privileges as soon as the war was over, in return for their dropping these privileges during the emergency, and this finally emerged into law so that it became the obligation of the country to labor.

Not only that, but the labor unions practically controlled the distribution of labor to fulfill the war necessities, and the machinery of the union organizations was extensively used in connection with the supply and payment of labor for the enormous government requirements.

The necessity for machinery of agreement between the government and labor unions and the machinery for the settlement of local grievances, led to the adoption of district boards and allied councils out of which grew the Whitley plan of dealing with the industrial human difficulties.

Industrial Control by British Labor Party

The close of the war found the labor organizations, and the Labor Party as the political side of the labor organizations, strengthened very greatly from the industrial emergencies of the war and the interference of government in industrial affairs. The power of the labor voice in the national councils had grown sufficiently so that no important question could be decided without the labor side being presented; and labor leaders were to be found in the Cabinet, in the Food Administration, on the Munitions Board, on the Royal Commissions, and upon committees appointed to inquire into important problems.

Today the Labor Party holds the balance of power politically in the British Parliament, and the labor organizations are so thoroughly disciplined and comprise so large a proportion of the working population, that government must treat with them and they are able to demand a voice in national affairs with a firm, almost imperative tone. There is little question that the English policy toward Russia and Poland was governed largely by the refusal of the British unions to provide munitions to be

used against Russia or to support any policy of warfare with Russia.

Not only has the labor voice become important in these matters, but in their present demands they include the limitation of profits to the owners of industry, the government of the sales price of some commodities of a basic character, and the provision of more liberal educational features for themselves.

This does not mean that there is unity in the trade union councils, nor that any radical program can be counted upon. The labor organizations themselves are very much divided upon important matters and there are several political parties representing branches of labor opinion.

Nevertheless, it does mean that the workers in Great Britain are organized with sufficient voting power and disciplined to a sufficient extent, to make it impossible to take important steps in national or international policy without a grave and serious consideration of the labor point of view upon such matters.

Analysis of British Labor Supremacy

When this development is analyzed, having taken place in a country notable for its conservatism, the amazing accretion of power, through the growth of labor organization machinery, is very suggestive and carries many indications of future changes.

There is no doubt that in Great Britain the whole system of capitalism and the present management of industry is on the defensive and must either educate the labor bodies to a point where their influences are modified, or compound with them, trusting that the responsibility of their increased power will bring its own effective influence to the solution of the problem.

Naturally, this change has not been brought about without the development of greater leaders in the labor ranks and a sufficient aspiration for leadership to bring about a keener consideration and a keener competition for the offices.

A study of the labor leadership in Great Britain and the writings and speeches of the leaders, indicates the extent to which the practical political application has been studied by many of these men and their ability to discuss the important problems connected therewith.

It is evident that in Great Britain the balance of an effective public power is passing from the industrial owners to the leaders of the workers and the development of the future will depend quite largely upon the intelligence possessed by these labor leaders in the handling of their new economic and political situation.

Growth of Labor Unions in the United States

In the United States no similar development has taken place, although the power of labor organizations has been very greatly increased, and this increase is not so likely to be recognized because of the difference in the situation. Before the entry of the United States into the war, the American Federation of Labor, the strongest organization of labor unions, represented only a small minority of the workers, and the other organizations representing workers of various types were not considered sufficiently powerful to be of any importance in the economic development of the country. Only in very few cases previous to the war had the United States government taken any cognizance of industrial difficulties or recognized any public necessity for governmental action in connection with industrial organization. During the war, for the first time, the government used the machinery of the

American Federation of Labor for the purpose of meeting its emergency requirements and appointed a labor board that recognized the trade union as the logical representative for the local workers. During this same period there was a great increase in the membership of the American Federation, the addition of a large number of new trade union organizations, and a still greater increase in the organization of unaffiliated bodies in various crafts and in various localities. In addition to this there was a large gain in the membership of the Industrial Workers of the World and similar radical bodies securing their membership almost entirely from among the working population.

Temporarily owing to the scarcity of workers during the war and immediately following, the power rested in the hands of the labor leaders—a change which they were not slow to take advantage of. The government recognition of the American Federation of Labor was used by that body with good effect to strengthen and consolidate its own position. The workers engaged in transportation and similar fields were gathered together in a more compact and better disciplined set of organizations. The net result was that the number of workers affiliated with the craft or trade organizations grew about 150 per cent in three years.

Not only was this the case but workers in various establishments who were previously unorganized gathered together in some form of organization whenever they had a grievance and used the organization as a means of forcing attention upon their dissatisfaction. There was a definite and very rapid growth in the craft unions, a similar rapid growth in the industrial unions, and a very considerable accretion of new organizations from the unorganized ranks.

Strength of Labor Unions Here

It is only in a few lines of industry that the organizations are sufficiently strong, from the workers' standpoint, to give them the full power in dealing with the owners of industry. In more lines, the trade unions or other organizations of workers are neither sufficiently strong nor sufficiently well disciplined to enforce their demands although they may interrupt production and increase the difficulties of industries. For these reasons, it is likely that the significance of the development during the war may be lost sight of. The tendency to increasing organization among workers is too definite to be dismissed and it is likely to increase in the future, so that it will become more and more important in industry unless new methods are found and generally applied to deal with the situation.

Labor wants have secured public attention which they lacked previously and labor leaders have defined their aspirations more carefully, become more confident and more aware of the power they possess through their control of the labor organization machinery.

The present situation in the United States leaves the labor unions and labor organizations of all types insufficient power to control the situation, but with sufficient power to draw attention to their necessities. This gives an opportunity for the development of better means of arranging the industrial organizations in this country from a human relation standpoint. The articulate demands of labor for a larger voice in the determination of the conditions under which they will labor, and for a larger measure of development in their own lives, will continue until these things are accomplished. Unless the managers and owners of industry get together with their workers, somehow or other, the demands are likely to

increase as the workers become more intelligent in their organization and their aspirations spread a little further. The difficulties of the situation would be increased very greatly if the machinery of labor organization captured the workers in this country as completely as it has done in Great Britain. Lacking the community of tradition coming from the homogeneous racial development and the common ground of political understanding existing in Great Britain, such a situation would force upon us interruptions of a far more serious character. Provided we have the intelligence in industry to study the human relations with at least the same care that has characterized our study of the natural sciences, the attention forced upon this question by the events during and following the war will be of great advantage to us in the ultimate outcome.

Study of Local Problems

It is not a balance of power which is required in the development of the industrial organization—and the balance of power would be as ineffectual in preventing interruptions and disaster as the political alliances in Europe, created with the same object in mind. What is needed is agreement between the members of the individual organization in respect of the conditions under which the common objects of production shall be pursued by that organization. This agreement is not to be secured by the development of any labor platform or any platform directed from the point of view of the owners of industry. It must be worked out by the patient study of the management responsible for the conduct of the individual establishment, and it cannot be determined in the abstract, but must be applied concretely to the particular conditions existing in that establishment.

Industrial and Political Outlook

Unfortunately, in Great Britain the present machinery of labor union and capitalist group has grown to such an extent that there is no immediate prospect of introducing other machinery for the settlement of industrial difficulties. There is no hope of getting away from the platform of the labor union, whether that platform be political or industrial. The homogeneous character of the population and their habit of staying in one establishment, together with the common political understanding, may permit them to work it out even with the clumsy machinery they have created. It is unlikely that this can be done, however, without amazing changes in the political and economical life of the people there.

Industrial warfare in this country has been more ruthless, and the mixture of people belonging to the working population has given the human developments in this respect a different tendency. It is desirable that the question of human relations in industry should be dealt with by the increasing intelligence of the individual management, without the necessity of creating more machinery distinctly devoted to the cause of labor and more machinery distinctly devoted to the cause of capital as such.

So long as labor and capital seek to increase their power as definite growths and to use that power to consolidate their advantages or attain their privileges, the machinery of organization will increase and intensify along these lines, and the struggle for power and advantage will become correspondingly keener. Whether the future development will increase these opposing groups as such, or will bring the industrial unit together in some sort of agreement about the common necessities of their work, will depend very largely upon the intelligence of the

industrial manager and the financier representing the owners of industry. It will depend upon their willingness to study the human side of organization with the same care they have devoted to the mechanical side, and upon their boldness in putting their convictions into practical effect through organization experimentation.

The power of the worker, growing with his capacity for organization, has shown amazing strides in every industrial country, and in more than one country today this power is sufficient to control the productive and in some cases the political outlook. In every country the power of the workers' organization tends to increase and will probably continue unless newer and better machinery for the adjustment of industrial relations is determined upon and a greater measure of understanding developed in regard to the human side of industry and its effect upon political changes.

CHAPTER IX

LEADERSHIP IN MODERN INDUSTRY

Previous Leadership by Employers

In an address before the production section of the United States Chamber of Commerce at its meeting in May, 1920, Dr. Charles Eaton made the statement that in the growth of the factory system, the manufacturer and the manager of the industrial establishment had ceased to be the leader of the workers, and the workers themselves had been obliged to elect their own leaders in their own way because of their need for leadership. What he meant was, that in the days of the small industrial establishment the employer was the leader of his workers. His work was sufficiently close to their work in character, that they could comprehend its value and understand its effect. He was frequently the most skillful worker and his intimate understanding of the details of the small establishment made him in effect the leader of his crew. Here and there establishments of this kind still remain and they seem to be undisturbed by the difficulties that have made so much trouble for the employer.

Employers' Personal Contact Today

In one of the cities near New York, there is a manufacturing establishment for the production of stained glass windows. That is, it is classified as a manufacturing establishment by the Census Bureau and the statistician, but it is really a craftsman's shop. The man at the head of it is a skilled craftsman and an artist in the work

the organization turns out. During the period of unrest following the Armistice, this man secured one worker who, as he expressed it, "was not of our kind," he was not sufficiently interested in the work to complete a piece that could not be left, when the regular hours of labor were over. Finally this man left, frozen out because of the lack of any community of interest between himself and the rest of the workers. Stained glass workers are organized in general and they work on a regular schedule and under the ordinary rules and regulations.

It is not astonishing that this man should have laid down his tools when the whistle blew; what is astonishing is the fact that there should remain a shop in this small, organized craft that still retains the spirit of craftsmanship, and where the worker who laid down his tools at a given moment was the unusual kind of a man.

The man who owns this establishment is a true leader of his workers. Men work for him all their lives and craftsmen are still there who grew up in their skill at the same time that the employer was learning the business. His workers look up to him as a man of superior attainment in their own craft, and therefore a natural leader.

When all industrial establishments were small, this was the usual case. Not only the personal contact was maintained in these establishments, but they were sufficiently small and simple in their specialization to permit the employer to possess a detailed knowledge and a detailed contact with the requirements of each portion of the work. This detailed knowledge was visible to the worker. It immediately stamped the employer as a man of superior skill in the work they were doing, and therefore a fit leader. As the industrial establishments grew, and became more highly specialized, the work of the employer differed so

entirely from the operations of the workers that the sense of contact was lost and with it went the appreciation of the leadership. The value, importance, and character of the employer's work was not understood by the worker, and he became purely a boss whose control was recognized but whose leadership was not understood.

Trade Union Leadership

This, of course, is not the whole tale of the trade unions' development; it is only one of the factors entering into the growth of the trade unions, the increase in class solidarity, and the development of trade union leadership. It is true, however, that the ideas and impressions of the rank and file of the workers are influenced to a very great degree by their lack of comprehension as to the value or importance of the work of management and the necessities surrounding them. Where there is ignorance, there is likely to be suspicion, and when the work of management, the intelligence required in the control of industry, and the value of the brain-worker in industry, are beyond the comprehension of the rank and file, they are ready to accept any propaganda directed against these other distinctive classes of workers.

It is not necessary that the followers of any leader should understand the leader and his desires. In fact, it is rare for this to be the case. It is necessary, however, for the leader to understand his followers. To understand them sufficiently to keep their belief in him active, to persuade them to continue in the work, the objects of which they do not fully understand, and convince them that he is leading them for their benefit as for his own. To establish this sort of faith, he must be visibly their superior in some of the practicalities they understand. His word must be sufficiently his bond, so that these

followers will respect the justice and fear the accuracy of his decision.

Relations between Employer and Employee

The workers in industrial organizations must be led or driven; there is no other method of getting the work done. In the days of hand-crafts, the employer was distinctly the leader. He was superior in his craftsmanship, sufficiently close to the men to understand them thoroughly, and able to make his decisions from that understanding, so that their justice was respected. His larger intelligence as a worker induced the fear of his accuracy necessary to the maintenance of his leadership. The employer and managers of modern industry have ceased to be the leaders of the workers except in a few individual cases. Generally they have no conception of how the workers live, nor do they understand their attitude of mind in respect of their work. They are too far removed from the workers to give their decisions in such a manner that the justice of the decision is immediately comprehensible; and the work they do is so different from that which must be done by the individual worker, it indicates none of the elements of superiority in skill the hand-craft worker saw in his employer. For the most part the average worker in modern industry recognizes in the managers and the owners thereof, only a larger amount of skill in securing money.

In other words, the value of the work performed by those responsible for the conduct of the establishment cannot be measured in terms with which the worker is familiar, nor in accordance with his standards of value. In the old days of the hand-craft worker, each worker did the whole of the job, and the employer worked with them on the same basis as a rule. The skill he displayed

in his capacity to complete the work from the standpoint of accuracy, quality, and speed was readily comprehended by the worker, and there was established between the employer and his men that mutual respect established only between fellow craftsmen interested in the development of the same basis of work.

The man who is engaged upon physical work and even upon routine matters of a mental character has no comprehension of the difficulty that accompanies mental labor, nor the amount of patient study and skill necessary to estimate properly all the factors entering into the complex organization of an industrial establishment.

The average business man has the same feeling about abstract mental capacity—theorizing, he calls it. The mental labor necessary to arrive at a theoretical definition, from the circumstantial evidence existing in practical effects, is no nearer his comprehension than the skill and judgment required in his work is to the laborer's understanding.

The employer and the managers of industry ceased to be the leaders of the workers many years ago. When this leadership was lost, the injustice and deficiencies in industrial organization turned the worker into active opposition. Leaders arise out of his own craft who were closer to his requirements, who understood him better, and who could talk in terms comprehensible to him.

In the course of time, industry found itself divided with no leadership of the industrial establishment as such, with the workers under their own leaders arrayed against the managers and owners of industry under their leaders.

Employer's Control by Power of Dismissal

Management, so far as the human side was concerned, ceased to be leadership and became control by force of

economic power. The managers cease to lead because of the workers' belief in his skill, his justice, and his capacity. He controlled because of his power to give them a living or not as he chose, and because of the fear existing in their minds of that very contingency.

That this was instinctively recognized is indicated by the justification passed upon many managers in days not long gone by, when the owners said of such men that "they were drivers, but they got their work out." It could be said of very few managers in industry, that they could manage men without having the power of dismissal in their hands. In other words, very few men who have managed the establishments of industry have been capable of leading men to such an extent that they could continue to hold the men together without the fear of dismissal being present at all times and without the continual exercise of this power.

Of course the final discipline of dismissal must be exercised in any industrial establishment that proposes to continue its work, but the fear of losing the job and consequently approaching starvation existed to such an extent in the mind of the workers that the very lodgment of the power of dismissal in the hands of the supervisor constituted so great a potential power of discipline, it overshadowed everything else. So long as the supervisor knew how the work should be done and was able to get it done, the effect of that process upon the human relations was never considered, and no care was taken to see that supervisors had any human understanding or were fitted with any capacity for human leadership. They were drivers, some of them gentle, some of them cruel, most of them neither particularly one or the other, but they were drivers expecting the same comprehension of their object from the workers as the driver of a horse would expect

of the animal and dealing with them in much the same way. The shacks in many a mining camp bear witness to the fact that the workers were not studied with any more care than the animals required in the camp. The entire neglect of the questions of physical fatigue, mental fatigue, necessities of light, fresh air, and so forth, in the older manufacturing establishments are eloquent as to the amount of study and understanding of the human side expected of the executive and manager.

Labor's Influence

Industry made no attempt to train leaders or to discover leaders of human beings; the leaders of industry were leaders in processes, in production, in distribution, in the tangible and mechanical arts of making something. They were not supposed to study men and no encouragement was given to the occasional leader of men who entered the industrial field.

The situation has changed, of course, in the last few years. The mechanical advantage of light, air, rest, relaxation, and comfortable human surroundings have been recognized to a considerable degree, and modern industrial establishments are arranged accordingly. It still remains, however, that the leaders of the workers are the labor leaders. The managers and owners of industry do not lead their workers except in a few individual cases. They control the process of production and the finance of their individual establishments. They cannot control their workers to the same extent they did. Organization has taught the worker his power, at least to some degree. He is no longer so afraid of his job as he was. The element of fear is not sufficient to cause him to submit to things which he considers unjust and against his interest. The consequence is that the managers and owners of in-

dustry are confronted with something with which they have no capacity to cope. They can only accept the situation and make the best compromises possible under the conditions. The old leadership has been lost, the new leadership has not been established, and the only leaders of the workers are those who do not comprehend the capacity of the owners and the managers, who do not believe in their moral basis, and who are suspicious of their actions.

Industry's Previous Control by Coercion

It is possible to control men by physical power, by economic power, or by other means of coercion, so long as those who are controlled do not understand the power which lies in their own hands. As soon as those who are controlled begin to realize their own strength, it becomes impossible to maintain that control on the basis of coercion.

Control by coercion engenders misunderstanding, it does not develop confidence; its tendency is to repress, to breed suspicion, to engender a sense of injustice, and to lay the seeds of revolution. In political organization we have observed the cycle complete its round from autocratic control by coercion, through to the revolution and the beginning of a new type of autocracy.

The owners of industry, controlling the means of production so that the worker could not engage upon any work except by their permission, were in a position to force the worker to work at their terms so long as the worker was ignorant of his own strength and lacked any knowledge of organization. During those years, industry did not feel the necessity for human understanding as a part of its managerial requirements, and there was no comprehension of any moral necessity in the continuance of industrial interdependence.

Labor's Present Autocratic Control

By virtue of his very necessities and his impotency as an individual, the worker drew together with his fellows in organizations for his protection. These organizations grew greatly in power until in some countries they have obtained virtual control and no important move can be made without them. For many years they have been sufficiently strong in certain industries and in some countries to demand and to make those demands effective.

The whole autocratic control exercised by the owners and managers of industry in the earlier days of the factory system has disappeared, and unless the present system is continued by the development of a different type of management and a different exercise of control, the organization of the workers will continue until the system itself is changed or destroyed.

Autocratic control freely exercised without respect to the moral necessities breeds the kind of revolution that results in the establishment of a new autocracy, and we are now in more danger of an autocracy of labor than we are from the continuance of the autocracy of the present owners of industry.

Leaders' Methods and Influence

There is no industrial leadership as such. Various groups of workers, various groups of executives, and various groups of owners have their individual leaders, but none of these leaders exercise an influence extending much beyond their own group in the management of industry or in relation to its development.

It is true that in a few individual cases, men have arisen who became leaders of their industrial establishments in fact, who controlled not only the management of these establishments but who led the workers and retained

the confidence of the stockholders. But these cases have been rare—so rare that they have attracted great attention from the public. They have not been understood, however, and the average executive has not been willing to follow or to draw any conclusions from their experimentations. The fallacy that industry has no moral necessities has been carefully preserved and handed down. "Business is business" has been the excuse for the neglect of the moral necessities which must go with mutual dependence and mutual responsibility.

Religion and philosophy have been relegated to the social side of life, and there has been little or no attempt to translate these evident truths of co-operation into industrial necessities. The history of the development of labor unions and other industrial groups has been that of warfare, and the morals of the fight have been the morals of warfare, although the methods have been physically less disastrous. The old autocratic control exercised by the industrial owners and managers cannot answer the requirements of the present situation. The worker has learned that the power he did not possess as an individual, is speedily conceded to him when he acts with his fellow-workers in a body. The worker has learned that he can always better his situation to some extent by fighting, that it is necessary for him to take advantage of his power in order to secure his objects, and that the destructive interruption brings more results in securing his desires than the orderly continuance of constructive production.

Moral Understanding between Industry and Labor

The increase in the power of the labor organizations has at last brought a problem before the owners of industry, sufficiently acute to make them realize that the present methods of organization and management are

not able to cope with the situation, and that no industrial organization is worthy of that name unless the human relations are considered as thoroughly as the processes and equipment. To some extent the moral responsibility is being realized; but the necessity for the development of this responsibility has not been understood sufficiently to produce the elements of change in organization, necessary to the continuance of an orderly development. The traditional methods of dealing with industry are very strong and they affect the actions of all groups within the industries despite the present discussions of the human necessities. Labor unions have been trained for years, by their own experience and the history of the union development, to suspect all the actions of the management, to disbelieve the claims of justice, and to doubt the efficiency of the system. A similar lack of comprehension is to be found in the other group.

As individuals and as groups, however, industry is so interrelated that the dependence of one individual upon another, and one group upon another, requires a degree of moral understanding not conceded by tradition nor recognized by present method. Mutual dependence of this character, operating to this extent, cannot be continued without the development of a sense of mutual responsibility—the mutual responsibility to deal fairly, to speak honorably, and to work faithfully with each other. These are moral requirements and the mutual responsibility must be based upon a recognition of mutual obligation.

Ideal Type of Leadership

Here and there leaders have arisen in industry who have been able to prove their recognition of these moral necessities of mutual dependence, so that they have successfully retained the confidence of their workers, the

confidence of their stockholders and of their customers. They have been able to prove that the interests of the workers, the management, the stockholders, and the customers can be mutually served by careful, honorable square dealing, by human understanding, by a common comprehension of the problems and a decent valuation of work. This is the type of leadership needed in industry, if the organization is to meet the coming difficulties. This type of leadership can effectively inspire confidence in the workers, the owners, and the customers alike. It retains that confidence, not because of shrewdness and chicanery, but because of squareness and understanding.

Leaders of this type know that processes are subsidiary to the human beings who control and create them, and all systems of equipment of industry are only valuable as they serve more effectively the purposes of human organization.

Why should not industry develop the type of leadership for its necessary work in peace, which was developed for the destructive work of war when the confidence and trust between officers and men were such that no accomplishment was too difficult, and no obstacle too serious to be overcome? This type of leadership must come. The march of human events may be slow, but it is irresistible in its progress towards greater development. Unless industry, the owners and managers of industry, produce leaders who can really lead the working forces, they will continue to follow their present leaders and others rising out of the labor union machinery.

In Great Britain the leadership of the labor organizations has reached such a point that no political move can be made without taking its power into consideration, and the solidity of this movement is so firmly expressed that

it must intimately affect the domestic and foreign policy of the British nation.

Industrial Executives' Attitude

Workers will have leaders who represent them, whom they can trust and with whom they can develop in confidence. If the present managers and owners of industry desire the continuance of the present system of industrial development, they must provide, as industrial executives and those in control of industrial operations, men who can lead the workers at least as ably as their present leaders do. They must be prepared to recognize that the human necessities govern the industrial efficiency, and that mutual dependence means mutual responsibility; that mutual responsibility can only be expressed in terms of mutual moral basis, and that this moral basis must be developed so that it is the common understanding of all parties concerned.

Industry has been busy for many years insisting that morals and industry have nothing to do with one another and in teaching the workers the foolishness of considering morals in industrial transactions. Industry must be prepared to prove, by its own actions, the moral basis upon which mutual dependence exists, and to teach the worker, by its own education, the necessity for mutual moral understanding in the discharge of mutual obligations.

CHAPTER X

THE FUNCTIONS OF ORGANIZATION

Operative and Legislative Functions

In all group organizations established by human beings, whether social, political, or industrial, for general or specific purposes, the functions required for the orderly progress of the organization divide themselves into the legislative and the operative.

In the earlier forms of organization where the necessities of operation were few, and consequently the necessity for legislation correspondingly simple, the same machinery could be made to serve both purposes, but the functions remained separate.

The operative functions require continuous decision, supervision, and obedience to that supervision. They require the lodgment of large power in the governor or leader, and an equally large measure of acquiescence from those who are subject to the government.

The legislative functions, on the other hand, dealing with those matters of rule and regulation and agreement, by which the group shall remain in orderly co-operation, depend for their permanency upon discussion, upon examination of all the possibilities, and upon agreement as to the conditions.

It is obvious, of course, that the operative functions represent the paramount necessity of any organization of human beings. It is necessary that all the operations of life should continue unless life itself is to cease. But where the individual of the group depends for a part of

his living upon the operations of other members of the group, the legislative necessities are of similar importance.

The legislative functions of the groups of Scandinavians who operated together under one leader in their first descent upon the British coast, were easily disposed of by a meeting of all the freemen of the group once a year. The operative functions were started by the selection of a leader, and the oath of obedience to him.

The Military System of Organization

In the early industrial groups where the numbers were small and the requirements of the group very simple, a few rules and regulations were easily disposed of between the leader and his subordinates, without the necessity of creating special machinery for the purpose, or without the necessity for constantly reviewing and adjusting the conditions.

This type of organization—the military type as it might be termed—remains in essentials the usual type of industrial organization today. The necessities of industry and industrial groups have become more and more complicated, the groups themselves have become larger and larger, and the questions for adjustment in the rules and regulations have occupied a corresponding increase of time.

While, therefore, the military system of organization remains essentially the usual system in industrial affairs today, other organization efforts have grown up outside the industrial unit in the attempt to provide for these increased legislative necessities, and at the same time permit the necessary efficiency in operation.

Unquestionably the operative function of an industrial organization requires a system approaching the military in character, and to this extent and for this purpose

the customary industrial organization is the correct one.

Legislative Powers Secured in Labor Unions

The industrial difficulties have arisen from the fact that the purely military system of organization has no machinery with which to take care of the legislative functions. These functions cannot be separated from the operations of group organizations, and they become more and more important as the groups become larger and their common co-operation more necessary.

This lack of legislative machinery has given rise to the labor organizations, the worker attempting to secure through his occupational group the legislative powers denied him in the individual industrial unit with its military form of organization.

Old, Simple Organization Machinery

In the beginning of the industrial revolution, about a century ago, very few establishments maintained over fifty workers; the large majority of them maintained less than ten workers under one roof.

Under these circumstances all questions relating to the conditions of work, the hours of work, the value of the labor, and other matters of regulation were easily disposed of by the complete understanding between the members of such a small group, and by the endless opportunities for the maintenance of that understanding.

The employer and the worker were very close together socially as well as economically, and the necessity for obedience in operation was accompanied by a confidence and understanding in regulation, which made it possible to perform all the functions of the organization with this simple machinery.

Effect of Old Machinery on Later Conditions

As the machinery of production grew in quantity, in size, and in skill, it became possible to concentrate in one industrial unit larger and larger groups of workers, following different occupations, and having somewhat different necessities in regulation and agreement.

These larger organizations did not change the system, but simply amplified the operating machinery of industrial government, so that the number of supervisors was constantly increased, new officials were interposed between the worker and the employer or leader of the industrial unit, and the distance between the worker and his ultimate chief became greater.

The former understanding existing between the leader and his employees was destroyed because of lack of common interest and direct contact. The possibility of discussion did not exist in this larger organization, and the rules and regulations were promulgated by the owners or employers without either understanding or agreement.

In the political organization at the same time, these legislative functions had been developed by the use of special machinery, until they offered the individual an opportunity to share in the discussions and to agree with the regulations and requirements. In the industrial group no machinery of the kind had been permitted, and very little modification has occurred even up to the present.

The position of the worker depended upon the attitude of his immediate supervisor, and his tenure could be ended by any conflict with his foreman. No matter what hardship a rule or regulation might inflict, there was no review of the matter, and there was no escape from its burdensome obligation. Some of the systems of penalties, which obtained even up to twenty years ago, are suffi-

ciently indicative of the failure of the operating type of organization to meet the increasing legislative necessities with justice and discernment.

Present Modifications of Military System

In the last twenty years the demands of the worker and the very necessities of efficient operation have compelled some important modifications in the military type of organization used in industrial work.

It has become usual in many lines of industry for a special department to hire men and to fit them for their work. There are many organizations where a man cannot be discharged by his immediate superior until the case has been investigated in some other way. In a number of organizations the employee who is discharged has the right to demand a review of his case before a body composed of men other than the ones interested, while the establishment of the conference system among the heads of various departments suggests the beginning of special machinery for the performance of the legislative functions.

Even from an operative standpoint, however, the usual practice in the development of the industrial organization has neglected to satisfy the demands of efficiency in some important particulars.

To maintain the highest productive efficiency per man and to keep up a spirit of contentment, it would seem that some knowledge of human nature would be required of a supervisor; yet it has been customary in all industries to promote the man for his knowledge of the product and not for his knowledge of the producers. It is rare indeed, even today, in an examination of industrial organization to find any special attempt to determine the capacity of the prospective supervisor to understand and govern human beings.

These failures have induced a lack of faith in the present type of industrial organization, not only in the minds of the general body of the workers, but in the minds of many of those who must take part in the government of the operations. The failure is apparent, even where the reasons for it have not been thought out.

Tendency towards Bureaucracy

In all operating organizations of the military type, as they grow in size there is a distinct tendency to the development of a bureaucracy, so that precedent, custom, and usual methods of examination and operation become paramount. The rule is no longer a means to an end, but an end in itself.

The writer well remembers a case in a large industrial organization where the question of the disposition of a charge from one department to another took about six months' time, a voluminous correspondence, and several meetings of the parties concerned, before it was adjusted.

The classic illustration of the disposition of the charge of twelve cents not accounted for by a soldier, which kept an array of clerks corresponding, sorting, and filing for three years, and even came to the attention of several generals, is not without its parallel in the annals of industrial organization.

In both cases trouble arises from the same cause—the tendency for the rule to become paramount and the reason to be lost, in large organizations, where the human contact between one department and another is practically non-existent. On the other hand, it must be admitted that a somewhat greater difficulty confronts the organization attempting to settle operating questions by means of legislative machinery.

Distinctness of Legislative and Operating Functions

The failure of "committee organization" to pursue effectively operating policies is apparent to any student of production. Many men have decided against the whole committee system because of this misuse of its value.

There is a very good reason why many co-operative experiments in business have failed. Operating questions are not matters for discussion, but matters for decision and action. They require not co-operative understanding, so much as individual authority and responsibility. In a co-operative organization there is grave danger that while the committees debate the business will pass out of existence.

In political matters there is a distinct danger that we shall not see clearly the divergent necessities of the two functions, and that we may turn over to legislative bodies the conduct of great operations, which require an entirely different form of organization.

Under modern conditions of industry, the military form of organization, despite its value as an operating body, has failed to meet the requirements of the case. The discontent of the worker has increased; his interests have been separated from his industrial unit and absorbed by his occupational organization.

His class consciousness has been aroused; his productive capacity has been increased only where he has been provided with additional machinery; and if the recent platforms of labor federation boards in some of the states are any criterion of the general feeling, he is principally concerned with protecting his economic status and demanding guarantees against unemployment.

For this reason it is necessary to consider other forms of organization, including attempts to separate the legislative functions of the industrial group from the operating

functions of the same body, and to discover, if possible, to what extent they offer a basis for the logical and orderly progress of the industrial group as a producing unit.

Lack of Unified Industrial Organization

In the modern industrial unit the principal legislative functions are those relating to wages, hours of labor, conditions of labor, protective regulations, welfare regulations, the government of physical conditions, and so forth. These present a distinct set of problems, where the greatest permanent benefit can be secured only through the fullest measure of understanding and agreement. In many industries they are at present settled or adjusted only through the interference of the outside labor organizations or the outside manufacturers' groups, with the public taking a hand in the matter from time to time.

Thus there is no complete unified industrial organization in the manufacturing unit of today, but a division of organizations, completing the separation between the operating leaders and their subordinates and tending to decrease the operating efficiency.

The attitude of the worker in looking to his occupational labor organization for his advantage in legislative industrial matters, tends to destroy any organization incentive he may have and carries him from place to place upon any fancied grievance, tends to increase his desire to protect his occupation as a class, to enforce his attempt to control the conditions of his work, and makes in other ways for continued strife and industrial inefficiency.

Proper Organization Machinery

Labor organizations are getting stronger, and unless some means are taken to provide proper machinery for

the control of the legislative functions within the industrial unit, the outlook is one of increased conflict and increased political interference with industrial operations.

The industrial establishment of tomorrow must present a unity of organization capable of meeting all the problems arising out of its operations. It must possess an operating organization giving proper powers to the supervisors and exacting proper obedience from the subordinates. In addition, provision must be made for a legislative organization through which the establishment can come to an agreement upon all matters related to wages, hours of labor, conditions of work, and similar matters of discussion.

These developments must be made with the full understanding of the separate functions of the two elements of organization and their proper co-ordination. Groups under supervisors, headed by general executives, are required for the operating work. Committees representing the different interests and occupations of management and workers are needed for the legislative agreements.

CHAPTER XI

THE FAILURE OF PRESENT GROUP ORGANIZATIONS

Disregard of Human Element

Present organization of industry fails from lack of study of the human side, and any appreciation of the way in which human developments influence the course of production. The history of trade unionism and socialism are indicative of this failure. The significance of these movements has not been understood in industry, and little or no attempt has been made to study the background of their development, and arrange the industrial organization so that it would provide a basis for the solution of the difficulties that have arisen.

Industry has failed entirely to grasp the significance of its widespread operations and the way in which these operations were bound to affect the political, the social, and the international developments.

In the preceding chapters, some attempts have been made to show the significance of these developments and the way in which they have affected the industrial situation. The effects noted in those chapters have grown to the extent shown therein, because the industrial organization has failed to understand the circumstances out of which they have arisen or the conditions which have permitted their development.

Specifically, the modern industrial organization arising out of the development of the factory system has failed to meet the conditions, because it has failed in its responsi-

bility as the great educational factor, and it has failed in its understanding of the necessity for the moral basis of mutual responsibility.

Spirit of Craftsmanship Desired

There started in Great Britain a few years ago, a movement which was termed "guild socialism," having for its central idea the development of an organization permitting the operatives in an industry to own the tools with which they work and to contract for work themselves under a system somewhat similar to that employed by the guilds in the hand labor period. It was termed socialism because it depended upon a co-operative movement and the common ownership of the tools of industry. But the incentive behind it was a desire to return to the spirit of craftsmanship, existing in the hand labor period, due to the educational possibilities of the work and the opportunity for mental development to be found in the job. One of the labor leaders, commenting upon the work of Robert E. Wolf in securing the co-operation of the workers with the management in some paper mills, said he would support anything of that kind even though it seemed to be against union principles, because it meant a return to the spirit of craftsmanship.

The complaint made by the older men and women regarding the work under their immediate observation is that the modern workman has lost the fine sense of accomplishment that made the older workman do such a good job.

The man has not lost the desire for accomplishment, but the organization of industry as it stands does not permit him to develop this sense, because the work itself does not educate him to the same co-ordination of mental and physical skill, he no longer controls the conditions of

his work, and the individual responsibility is not visible in connection therewith. It is in these human respects that the present organization of industry has failed, and it is these things which are affecting its efficiency, increasing its difficulties, and forming the basis for the unrest, which is expressing itself in increased industrial interruptions or new political demands.

We talk as though the government of the conditions of his work were a new idea—a departure from the customary and a complete experiment. Historically speaking, the worker governed the conditions of his work to a very large extent before the beginning of the factory system. At that time he owned the tools with which he worked, the skill in the use of the tools was his, his work was frequently conducted in his own place, he could choose the materials with which he worked and the design upon which he worked.

From time immemorial, therefore, the worker governed the conditions of his work in many essentials, until the beginning of the factory system. The use of steam and the consequent growth in the size and the capacity of the machinery deprived him of the government of his working conditions, obliged him to work under circumstances over which he had no control and in respect of which neither his desires nor his necessities were of any account.

Extent of Educational Development

The value of the old handwork, as the greatest educational factor in the life of the worker, was bound to go when the factory system with its repetitive machinery came in. Industry failed to recognize either the necessity for this education or the necessity for special means of conducting it, after the old methods were abolished. For

the greater part of the industrial era, since the beginning of the factory system, industry itself paid no attention to the educational work begun by the communities and the other political units of organization. Political considerations, the traditions of previous educational systems, the desires of reformers, were allowed to govern the educational work without any suggestion from industry as to the method and without any support from industry as to the development. Not only did the industrial organization fail to see the necessity of this education and its own obligation to produce the right kind of education for its workers, but it stood in the way of educational development for many years after the factory system was introduced.

Absence of Intellectual Stimulus

The necessity for limiting the machine to certain operations was allowed also to limit the human being to those operations. The old work with its variety of operations, its continual moral effect on the intellect, and its broader educational basis, was gradually eliminated, without any other educational basis being provided to take its place. Just as industry lessened the intellectual stimulus of the work, continually, in the course of its development and limited the possibilities of the work in the same way, so the leadership of the master craftsman was lost in the new relation between employer and employee. This in itself was one of the great features in the educational value of the old system. The visible superiority in the skilled judgment and artistry of the master craftsman was an intellectual stimulus to accomplishment; it was present and visible to every worker at all times.

This type of leadership has almost disappeared and is to be found only in a very few places and affecting only a very small number of workers.

Industry has continued to be the great educational factor in the lives of the majority of the people, but the education it has provided for the majority of its workers has not been of such a character as to increase their development intellectually or from a general human standpoint.

Worker's Individuality Lost

The lesson of the group work under the present industrial organization has not been a lesson in co-operation, but very largely a lesson in common servitude to the machine. The old worker governed his tool; he could produce, at will, coarse work or fine work, the simple mechanical requirements of use or the intricate demands of the most exquisite decoration.

The introduction of the machine and its regularities and limitations caused the man to be governed by the necessities of the machine. He could no longer vary the work except within the certain narrow limits; he could not alter nor amplify the design, and he could not change materially the character of the result. The machine instead of improving upon the educational work accomplished by the old hand labor, educated the worker in limitations, in repetition, showed him the futility of his individuality in connection therewith, and obliged him to limit his ideas about the work to the capacity of the machine he was attending.

There was no necessity for this to occur except through the failure of industry to realize what was happening. The machines made by men and which brought such comfort and convenience to man, could have been made to contribute to the individual worker the same educational values they have provided for the man who can view them in the broad development and understand the significance of their co-ordinate operation.

Experiments towards Improvement

Of late years, some idea of the inadequacy of the worker's education in the present industrial organization has grown up. Experiments had been conducted designed to give the worker a sufficient basis of information to enable him to visualize his work in its proper place and restore to some extent his government of his work.

In the meantime, the deficiencies in the industrial organization and its changes have produced organizations, ideals, economical and political creeds of sufficient strength and sufficient divergence to make the development of the proper education in relation to the work a very much more difficult matter, and its results possible only after longer and more patient experimentation.

Somehow industry must undertake to provide, either in the work itself or in the connection of work, a sufficient intellectual stimulus and a sufficient necessity for intellectual development to maintain the interest and develop the incentive for accomplishment, which alone will harness the potential power.

Awakening of Workers' Creative Impulse

Out of the experiments in the last few years, there have arisen two or three suggestions affording the basis for a better development of industrial organization along these lines. Something giving the worker an opportunity to extend himself beyond the requirements of the individual machine, to visualize the value and the usefulness of the work upon which he is engaged, and to engage himself in the improvement of that work, so that the efforts of his own co-operative impulse may be discerned in connection with the work itself.

These matters will be referred to in later chapters in considering the practical application to the various in-

dustrial necessities. For the present it is enough to note that they are taking place and that they indicate future possibilities that are by no means unimportant. Recent events in Russia, Italy, and Great Britain, show the strength of the desire among the workers to control the tools of industry. The whole Bolshevik movement in Russia received its strength from this idea, and the seizure of the factories by the Italian workmen grew out of the same aspiration. The strength of this desire comes from the necessity for an intellectual and moral development visible to the individual, so that his mental activity and his outlook are no longer limited by the necessities of the machine. The strength of this aspiration shows the fundamental importance of harnessing the creative impulse in an arrangement of the industrial organization. It shows the danger in an organization, which limits the industrial development of the man to the mechanical equipment of industry, and therefore deprives him of the greatest factor in his intellectual and moral growth.

Growth of Opposing Organizations

This failure of the industrial organizations is nowhere more definitely shown than in the rapid growth of trade unionism on the one hand, and organizations to combat trade unionism on the other hand. The industrial organization concerned with common problems of production, common necessities of operations in the atmosphere of a locality, has been unable to preserve its unity. The workers and those representing the management and ownership have become so widely separated in their approach to this common problem, their hopes and aspirations in respect of it, that they are to be found in opposition, continually involved in destructive interruptions, which limit the amount of work, destroy the organization

development, and in other ways take away a considerable measure from the result. This opposition, in fact, has grown to such proportions that the various groups believe they are engaged upon different problems and that there is hardly any common ground of necessity on which they must meet. They have been driven so far apart that there seems to be little hope of arriving at any common understanding permitting peaceful progress, so that the common necessities can be fulfilled without the expensive and destructive interludes of warfare that have occurred continually.

Waning of Personal Responsibility

There is a fair degree of understanding as to the obligation of the individual to other individuals in a social organization, and this obligation is the basis for the present status of social order and comfort. There is little or no understanding of the obligation which lies upon each individual of a group for the actions of that group or its representatives, and as a consequence the groups themselves will proceed upon lines which would be discredited by the individual and upon which he would refuse to work in his individual capacity. No individual striker in his capacity as a member of the social organization would throw bricks at another man with whom he had a disagreement—or at any rate such cases would be very rare.

In almost every strike in a public utility field, street-cars are stoned by the strikers, none of whom recognize any individual responsibility for the actions they pursue as members of the union involved. No industrial owner as an individual would countenance any gun-play or any rough work on the part of his servants or other employees of his home. But as a stockholder or the representative

of the owners, he feels no personal responsibility when the strike-breakers he has hired get into a fight with the strikers and succeed in wounding or killing some of their opponents.

It is obvious that our sense of responsibility has not developed as rapidly as our capacity for organization. Industry is responsible in part for this failure because it has allowed the elected representatives of the owners, or the owners themselves, to do by proxy through their representatives what they would not do personally. As the great educational factor, it has not developed the sense of responsibility in the representatives of the owners or workers, that would lead to the same individual consideration of group action.

The present industrial organization has failed to maintain a reasonable degree of unity. It has failed to see the practical necessity for co-operation. It has failed in refusing to recognize the human government of mechanical efficiency.

CHAPTER XII

EXPERIMENTS WITH EMPLOYEE REPRESENTATION

Co-operation between Small Units

An analogy may be drawn between the grouping of individuals in industry, and the grouping of individuals in the social organization in the social units of various sizes. There is the individual worker and the group of individual workers, occupied with the same work. There is the industrial unit, factory or establishment, with its individual groups organized under supervisors and committees. There are the co-operative organizations of these individual establishments of a local and of a national character. The small group of workers at the same occupation is the industrial neighborhood with its considerable element of common requirement. The industrial establishment is really the industrial community with its common purpose and its fair degree of common requirement in the co-operative object. The co-operative organizations of industry are the industrial states and the industrial nation.

The analogy does not hold all together, but it is sufficiently true to show the necessity for some common understanding within the group and within the unit before the larger co-operation can be effected properly. The peaceful development of a nation must be preceded by the development of peaceful communities and states, so the peaceful development of industry must be preceded by the development of peaceful industrial establish-

ments and the enlargement of this co-operation to the localities.

A divided industrial establishment where the groups recognized neither obligation nor allegiance to one another, cannot be developed into a peaceful establishment by pressure from the outside. We cannot hope to secure industrial peace through the development of outside machinery, national, state and local machinery for adjustment, without the establishment of common understanding and peaceful co-operation in the individual establishment or unit itself.

The weaknesses of operation through the trade union and the group of employers have been sufficiently visible to suggest experiments in the establishment of orderly methods of co-operation within the factory itself, and these experiments divide themselves into well-defined groups:

1. The conference system
2. The works committee plan
3. The house and senate plan

These are discussed in the following sections.

1. The Conference System

The conference system involves the erection of a body made up generally of representatives of the workers and representatives of the owners the representatives of the workers being elected by the employees under proper safeguards, and the representatives of the management being appointed. This conference committee has under its consideration questions of working conditions, wages, hours of labor, recreation, health, safety, and so forth, with more or less freedom to discuss other matters of mutual interest.

A good many such experimental developments have taken place since 1914. While they vary to some extent in their details, the general character of their organization is sufficiently similar to be indicated thoroughly by the two following examples.

Bethlehem Steel Plan

The full plan of the Bethlehem Steel Corporation includes a complete organization for the joint operation of the worker and the management in all matters relating to the conditions of the worker, and in this respect takes in more detail than is definitely determined in most of such organization plans.

This plan varies from the plans of other steel companies, in that it provides for a different representation based upon the size of the plant.

It has the usual provisions which have been accepted in large organizations for the qualification of the representative and the elections. It provides for meetings of the joint committee once every two months and for the representatives' committee once every month. This frequency of meetings is an important point in the development of any such organization which was omitted from the earlier plans developed in some of the large steel companies, and which omission we noted at the time. The frequent meetings of these committees will do much to get them on a working order and to iron out the difficulties which must appear in the beginning of the organization work.

The charts given herein illustrate the plan of representation and the procedure for settling questions.

The details of the plan employed by the Bethlehem Steel Corporation are quoted on pages 138 and 140.

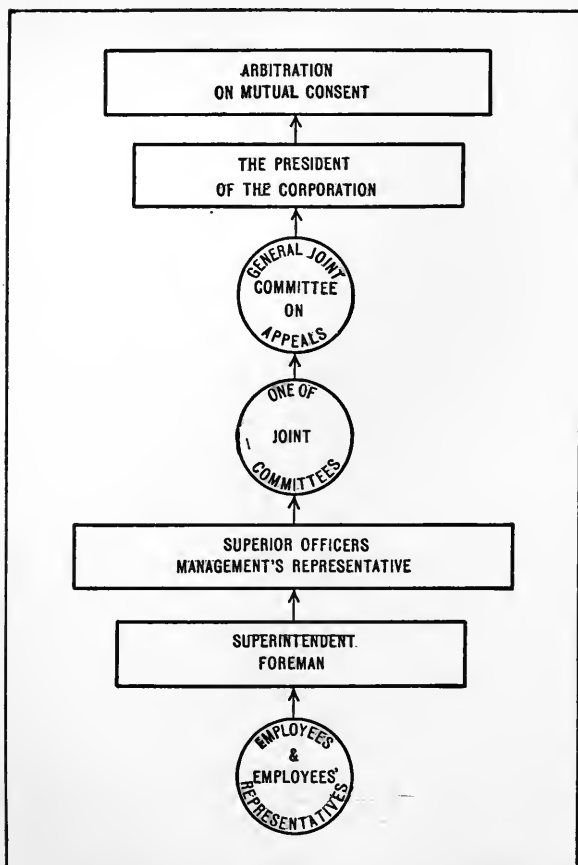


Chart Showing Procedure in Adjustment of Labor Grievances—Bethlehem Steel Corporation

I—REPRESENTATION

1. Representation shall be on the following basis:

Plants employing under 1500 employees: One representative for each 100 employees.

Plants employing 1,500 to 10,000 employees: One representative for each 200 employees.

Plants employing over 10,000 employees: One representative for each 300 employees; provided, however, that in no case shall there be less than 10 representatives.

Such adjustments as may be necessary to meet special cases shall be made.

2. For the purpose of applying the unit of representation, the plants should be subdivided according to departments and natural subdivisions. Wherever it is necessary to group a number of small departments in order to complete a unit of representation, regard shall be had to logical groupings and location.

3. Adjustment in units of representation shall be made in accordance with the recommendations of the Committee on Rules.

II—TERMS OF REPRESENTATIVES

1. Representatives shall be elected for a term of one year, and shall be eligible for re-election.

2. A representative may be recalled upon the approval by the Committee on Rules of a petition signed by two-thirds of the voters in his department.

3. A representative shall be deemed to have vacated office upon severance of his relations with the company or upon his appointment to such a regular position as would bring him within the meaning of Paragraph 3, Section 3, entitled "Qualifications of Representatives and Voters."

4. Vacancies in the office of representative may be filled, in the discretion of the Committee on Rules, by special elections conducted in the same manner as the general elections.

III—QUALIFICATIONS OF REPRESENTATIVES AND VOTERS

1. Any employee who has been on the company's pay-rolls for a period of six months prior to nominations, who is 21 years of age and over, and who is an American citizen or has taken out his first papers, shall be considered qualified for nomination and election as a representative.

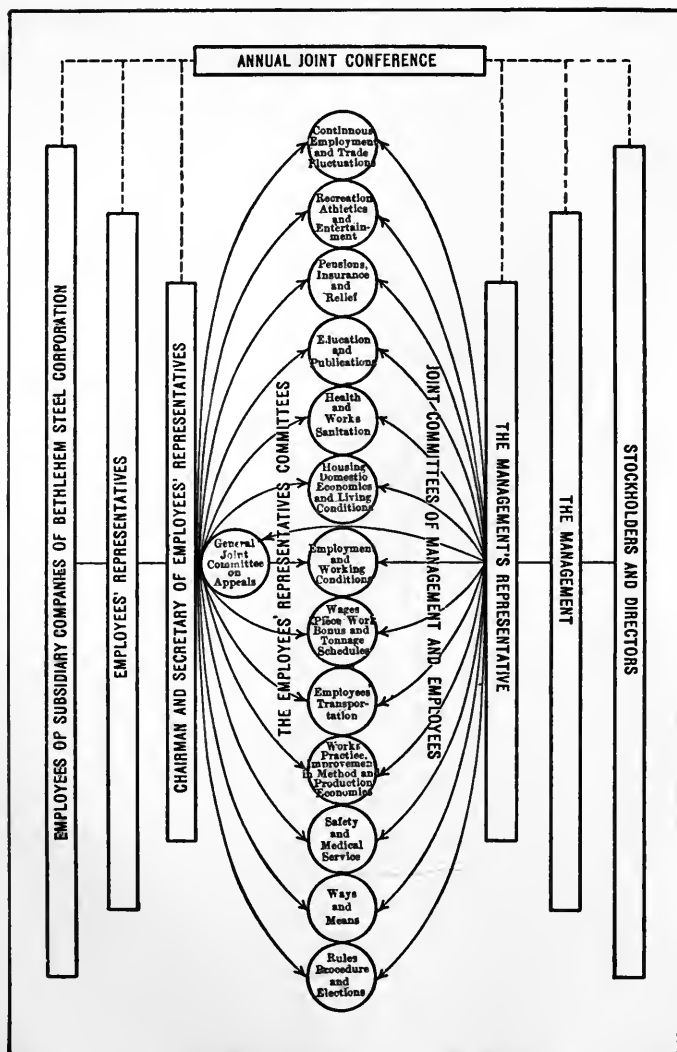


Chart Showing Management and Employees' Representation and Names of Committee—Bethlehem Steel Corporation

2. All employees who have been on the company's pay-rolls for a period of at least sixty (60) days prior to the date fixed for nominations, and who are 18 years of age or over, shall be entitled to vote; provided, however, that in case of the first elections, thirty (30) days on the company's pay-rolls shall suffice.

3. Company officials and persons having the right to hire or discharge shall not be eligible as representatives or qualified to vote for representatives.

International Harvester Plan

The following summarizes the plan of the International Harvester Company:

The plan is an industrial council form of organization in which a works council is the major body. This works council is made up of equal representation from the management of the company and the factory workers. The factory workers elect by secret ballot what is known as employee representatives, in the ratio of one such representative for each 200 to 300 workers.

The management appoints what it calls employer representatives in the works council, equal in number to the representatives of the factory employees.

This works council never has less than five employee representatives and a similar number of management representatives. Both of these groups of representatives have equal voice and voting power in all matters brought before the works council.

Should the works council not be able to reach an agreement on any questions before it, then the matter is referred to arbitration. No such question can be referred to arbitration unless by mutual agreement of the factory representatives as well as the management representatives. When it is agreed that a matter has to be arbitrated upon, the works council proceeds to agree upon an arbitrator. In case they cannot agree upon such arbitrator, then the

employee representatives select one and the president selects another. If these two agree, their decision is final. If they cannot agree, they select a third arbitrator and the decision of the three is final.

All employees who are working in any factory have the right to vote for the election of employee representatives from that factory. Employees, both men and women, are entitled to vote except foremen, assistant foremen, and other employees having the power to employ or discharge workers.

Whenever employee representatives have to journey to other cities to take part in the works council, their traveling and maintenance expenses are cared for by the company.

The underlying principle of the movement is to secure equal representation between the plant management and the plant employees, thereby doing away with the arbitrary power of the management and harmonizing the interests of employer and employee.

Whenever there are matters affecting several factories, the president of the company may summon what is designated as a general council. This is made up of employee representatives from the different works councils, there being a works council for each factory. There is one representative of the workers in the general council for each 1,000 of employees or a major fraction thereof, and no factory has less than two representatives in a general council.

In a general council the management appoints representatives equal in number to those appointed by the employees.

The president or some person designated by him acts as chairman of the general council but he has no voting power.

Organization of International Harvester Industrial Council

The details of the International Harvester plan are:

ARTICLE I. PURPOSE

The employees and the management of the International Harvester Co. and its subsidiary companies undertake by the adoption of this plan of an Industrial Council to establish these relations upon a definite and durable basis of mutual understanding and confidence.

To this end the employees and the management shall have equal representation in the consideration of all questions of policy relating to working conditions, health, safety, hours of labor, wages, recreation, education and other similar matters of mutual interest.

ARTICLE II. WORKS COUNCILS

As the principal means of carrying this plan into effect, there shall be organized, at each Works adopting the plan, a Works Council composed of representatives of the employees and representatives of the management. The employee representatives shall be elected by the employees. The management representatives shall be appointed by the management, and shall not exceed the employee representatives in number. Both shall at all times have an equal voice and voting power in considering matters coming before the council.

Through these councils any employee or group of employees, or the management, may at any time present suggestions, requests or complaints, with the certainty of a full and fair hearing. Matters which cannot be thus disposed of may, by mutual consent, be submitted to impartial arbitration as hereinafter provided.

ARTICLE III. DEPARTMENT OF INDUSTRIAL RELATIONS

To aid in carrying out this plan the company has established a Department of Industrial Relations which is charged with the duty of giving special attention to all matters pertaining to labor policies and the well-being of the employees.

ARTICLE IV. VOTING DIVISIONS

The basis of representation shall generally be one employee representative for each two hundred to three hundred

employees, but in no case shall there be less than five employee representatives in the Works Council.

In order that the different departments and crafts may be fairly represented, each works shall be divided into Voting Divisions, and each division shall be assigned its proper number of representatives, based upon the average number of persons employed therein during the month of December preceding the election.

The Works Council may change the Voting Divisions whenever necessary to secure complete and fair representation.

ARTICLE V. QUALIFICATIONS OF EMPLOYEE REPRESENTATIVES

1. To be eligible for nomination as employee representative from any Voting Division the employee must be employed therein.

2. Foremen, assistant foremen, and other employees having the power of employment and discharge, shall not be eligible for nomination.

3. Only employees who are citizens of the United States, twenty-one years old or over, and have been continuously in the works' service for one year immediately prior to nomination, as shown on the records of the employment department, shall be eligible for nomination as employee representatives.

ARTICLE VI. NOMINATION AND ELECTION OF EMPLOYEE REPRESENTATIVES

1. Nomination and election of employee representatives shall be by secret ballot. The first nomination and election shall be held as soon as practicable after the adoption of this plan, at which time the full number of employee representatives shall be elected.

2. At the first meeting of the Works Council the employee representatives shall be divided by lot into two classes, one-half with terms expiring on Jan. 1, 1920, and the other half with terms expiring on July 1, 1920. Thereafter the election of employee representatives of the first class shall be held in December and of the second class in June. Except as above provided, all employee representatives shall hold office for one year and until their successors are duly elected.

3. Notice of the time appointed for nominations and elections shall be given by bulletins posted publicly in the works at least two days before the date set for the nominating ballot.

4. All employees, both men and women, shall be entitled to vote, except foremen, assistant foremen, and other employees having the power of employment or discharge.

NOMINATIONS

5. Nominations shall be made in the following manner: Not more than four days before the date fixed for the election, a nominating vote shall be taken. A blank ballot stating the number of representatives to be nominated from his Voting Division will be offered to each employee present at work on the date of the nomination, including all workers on the night turn, if any.

6. On this ballot the employee will write (or he may have a fellow employee write for him) the name of the person he desires to nominate. If his Voting Division is to elect one representative then one name shall be written on the ballot; if his Voting Division is to elect two representatives then two names, and so on.

7. Any ballot containing more names than the number of representatives to be elected from that Voting Division shall not be counted.

8. Employees will deposit their ballots in a locked box carried by a teller representing the employees, who shall be accompanied by a timekeeper.

9. When all who desire have voted, the timekeeper and two employee watchers shall open the ballot box and count and record the votes, in the presence of the works auditor, or person designated by him.

10. In Voting Divisions from which *one* representative is to be elected, the *two* persons receiving the highest number of votes shall be declared nominated. If any Voting Division is to elect *two* representatives, then the *four* persons receiving the highest number of votes shall be declared nominated, and so on.

11. If any person nominated is disqualified under the provisions of Article V, then the properly qualified candidate receiving the next highest number of votes shall be declared the nominee.

12. The results of the balloting and the names of the nominees shall be posted in the works as soon as the votes have been counted and the nominations declared.

ELECTIONS

13. Not more than four days after the nominations are posted, the election by secret ballot shall be held in the same manner as for nomination, except that at the *election* only the names of the persons who have been duly nominated shall appear on the ballots, and these persons alone can be voted for.

14. The name of the nominee receiving the highest number of votes shall be placed first upon the election ballot; the name of the nominee receiving the next highest number shall be placed next on the election ballot, and so on.

15. At the election the candidate or candidates receiving the highest number of votes in his or their Voting Division shall be declared elected members of the Works Council.

ARTICLE VII. APPOINTMENT OF MANAGEMENT REPRESENTATIVES

Upon the election of the employee representatives the management will announce the appointment of the management representatives in the Works Council, whose number shall in no case exceed the number of elected employee representatives.

ARTICLE VIII. VACANCIES IN THE WORKS COUNCIL

1. If any employee representative leaves the service of the works, or becomes ineligible for any of the reasons stated in Section V, or is recalled, as provided in Section IX, or is absent from more than four consecutive meetings of the Works Council without such absence being excused by the Council, his membership therein shall immediately cease.

2. All vacancies among the employee representatives shall be promptly filled by special nomination and election, conducted under the direction of the Works Council in the same manner as regular nominations and elections. Vacancies among the management representatives shall be filled by appointment by the management.

ARTICLE IX. RECALL OF EMPLOYEE REPRESENTATIVES

1. If the services of any employee representative become unsatisfactory to the employees of the Voting Division from which he was elected, they may recall him in the manner herein provided.

2. Whenever a petition is filed with the Chairman of the Works Council, signed by not less than one-third of the em-

ployees of a Voting Division, asking for the recall of their representative, a special election by secret ballot shall be held in that Voting Division under the direction of the Works Council, to decide whether such representative shall be recalled or continued in office.

3. If at such election a majority of the employees in the Voting Division vote in favor of recalling their representative, then his term of office shall immediately cease; otherwise he shall continue in office.

4. Any vacancy so created shall be immediately filled by a special election, as provided in Section VIII.

ARTICLE X. ORGANIZATION AND MEETINGS OF THE WORKS COUNCIL

1. The manager of the Department of Industrial Relations or someone designated by him, shall act as chairman of the Works Council. A secretary shall be appointed by the superintendent of the Works. Neither the chairman nor secretary shall have a vote.

2. A majority of the employee representatives, together with a majority of the management representatives, shall constitute a quorum, and no business shall be transacted at any meeting where less than a quorum is present.

3. The Works Council may appoint such sub-committees as it deems desirable for efficient conduct of its business. On all such sub-committees both the employees and the management shall be represented, and each group of representatives shall have equal voting power.

4. The Works Council shall hold regular monthly meetings at times fixed by the Council. Special meetings may be called on three days' written notice by the chairman, secretary, or any three members of the Council. Sub-committees shall meet whenever necessary.

5. The company shall provide at its expense suitable places for meetings of the Works Council and its sub-committees and the employee representatives thereon.

6. Employees serving as members of the Works Council shall receive their regular pay from the company during such absence from work as this service actually requires, except that if the employee representatives so desire, they shall be at liberty to arrange for compensation to be paid by pro-rata assessment among the employees.

7. Employees attending any meeting at the request of the Works Council or any sub-committee shall receive their regular pay from the company for such time as they are actually and necessarily absent from work on this account.

8. The Works Council may prepare and distribute to the employees reports of its proceedings, and the expense thereof shall be borne by the company.

ARTICLE XI. DUTIES AND POWERS OF THE WORKS COUNCIL

1. The Works Council may consider and make recommendations on all questions relating to working conditions, protection of health, safety, wages, hours of labor, recreation, education and other similar matters of mutual interest to the employees and the management. It shall afford full opportunity for the presentation and discussion of these matters.

2. The Works Council may on its own motion investigate matters of mutual interest and make recommendations thereon to the Works Management; and the management also may refer matters to the Works Council for investigation and report.

3. The Works Council may confer with the superintendent or other person designated by him in regard to all matters of mutual interest, and shall receive from the management regular reports in regard to accident prevention, sanitation, restaurants, medical service, employment, educational programs and recreational activities, including information as to the cost, efficiency and results obtained.

4. The Works Council shall be concerned solely with shaping the policies of the company relating to the matters heretofore mentioned. When the policy of the company as to any of these matters has been settled, its execution shall remain with the management, but the manner of that execution may at any time be a subject for the consideration of the Works Council.

ARTICLE XII. PROCEDURE OF WORKS COUNCIL

1. Employees desiring to bring any matters before the Works Council may present these to the secretary of the council either in person or through their representatives. It shall be the secretary's duty first to ascertain whether the matter has been properly presented through the regular channels to the superintendent, and if not he shall see that this is promptly done.

2. If the matter is not satisfactorily disposed of in this

manner, the secretary shall submit a written statement of the matter to each member of the Works Council at least three days before the next regular meeting.

3. Any employee or group of employees thus referring a matter to the Works Council shall have an opportunity to appear before it and present the case. Any such group of employees shall select not more than three spokesmen from their own number to appear before the council.

4. The Works Council may call any employee before it to give information regarding any matter under consideration. The Works Council, or any sub-committees appointed by it for that purpose, may go in a body to any part of the plant to make investigations.

5. After complete investigation and full discussion of any matter under consideration by the Works Council, the chairman shall call for a vote, which shall be secret, unless otherwise ordered by the Council. The employee representatives and the management representatives shall vote separately. The vote of the majority of the employee representatives shall be taken as the vote of all and recorded as their unit vote. Similarly, the vote of a majority of the management representatives shall be taken as the vote of all and recorded as their unit vote.

6. Both the employee representatives and the management representatives shall have the right to withdraw temporarily from any meeting of the Works Council for private discussion of any matter under consideration.

7. When the Works Council reaches an agreement on any matter, its recommendation shall be referred to the Superintendent for execution, except that if the Superintendent considers it of such importance as to require the attention of the general officers, he shall immediately refer it to the President of the International Harvester Company, who may either approve the recommendation of the Works Council and order its immediate execution by the Superintendent, or proceed with further consideration of the matter in accordance with Article XIII.

8. In case of a tie vote in the Works Council, it shall be in order to reopen the discussion, to offer a substitute or compromise recommendation, on which the votes shall be taken in the same manner as above provided.

ARTICLE XIII. REFERENCE TO THE PRESIDENT

1. If, after further consideration, the vote in the Works Council remains a tie, then the matter shall, at the request of either the employee representatives or the management representatives, be referred to the President of the International Harvester Company.

2. The President, or his specially appointed representative, may confer with the Works Council as a whole, or any subcommittee thereof, or any group of employee representatives, at such time and place and in such manner as in his opinion will best serve to bring out all the facts of the case.

3. Within ten days after the matter has been referred to him, the President shall either

(a) Propose a settlement thereof; or

(b) Refer the matter directly to a General Council to be formed as provided in Article XIV.

4. If the settlement proposed by the President is not satisfactory to a majority of the employee representatives, and if after a further period of five days no agreement has been reached, then the President may, if he deems it advisable, refer the matter to a General Council to be formed as provided in Article XIV.

5. If the President decides not to refer the matter to a General Council, or if the vote of the General Council is a tie, then the matter may, by mutual agreement of the President and a majority of the employee representatives, be submitted to arbitration, as provided in Article XV.

ARTICLE XIV. GENERAL COUNCIL

1. Whenever in the opinion of the President any matter coming before any Works Council affects other Works of the company, or whenever he desires to refer any matter as provided in Article XIII, he may call a General Council to consider such matter, and thereafter the Works Council shall take no further action thereon.

2. The General Council shall be formed in the following manner: The President shall issue a notice designating the several Works which he deems jointly interested. Thereupon the employee representatives in the Works Council at each of the Works designated shall select two or more of their own

number to act as members of the General Council. There shall be one such member of the General Council for each 1000 employees or major fraction thereof, except that no works shall have less than two representatives in the General Council.

3. The management representatives in the General Council shall be appointed by the President and shall not exceed the number of employee representatives.

4. The President or some person designated by him shall act as chairman of the General Council, without vote.

5. The first meeting of the General Council shall be held within ten days after the President's notice calling such Council.

6. The General Council shall, when necessary, take recesses in order to allow employee representatives therein to confer with other members of their Works Councils. For this purpose special meetings of the Works Councils as a whole, or of the employee representatives alone, shall (at the request of the employee representatives serving on the General Council) be convened at the respective Works and full opportunity shall be given for conference and discussion with such representatives regarding their attitude and action on the pending matter.

7. Reasonable traveling expenses, including hotel bills of employee and management representatives serving on a General Council, shall be paid by the company.

8. The procedure in the General Council with reference to the consideration of matters coming before it and the manner of voting shall be the same as that prescribed for the Works Council.

9. If the General Council is unable to reach an agreement as to any matter, it may, by mutual agreement of a majority of both the employee representatives and the management representatives, be submitted to arbitration.

ARTICLE XV. ARBITRATION

1. Whenever the President and a majority of the employee representatives in the General Council, or the Works Council as the case may be, have mutually agreed to submit a matter to arbitration, they shall proceed to select an impartial and disinterested arbitrator. If they cannot agree upon an arbitrator, then the employee representatives shall choose one such arbitrator and the President shall choose another, and if these

two agree their decision shall be final. If they do not agree, then they shall select and call in a third arbitrator, and a decision of a majority of these three shall be final.

2. The arbitrator or arbitrators shall be furnished all the information and testimony they deem necessary regarding the matter in arbitration.

ARTICLE XVI. DECISIONS OF GENERAL COUNCIL OR BY ARBITRATION

All decisions of any General Council or of any arbitrator or arbitrators shall be binding upon all the Works originally designated by the President as being jointly interested. Any such decision may be made retroactive.

ARTICLE XVII. GUARANTY OF INDEPENDENCE OF ACTION

Every representative serving on any Works or General Council shall be wholly free in the performance of his duties as such, and shall not be discriminated against on account of any action taken by him in good faith in his representative capacity. To guarantee to each representative his independence, he shall have the right to appeal directly to the President for relief from any alleged discrimination against him, and if the decision of the President is not satisfactory to him, then to have the question settled by an arbitrator selected by mutual agreement.

ARTICLE XVIII. NO DISCRIMINATION

There shall be no discrimination under this plan against any employee, because of race, sex, political or religious affiliation or membership in any labor or other organization.

ARTICLE XIX. DECISIONS AFFECTING WAGES

Decisions affecting wages made by any Works Council or General Council or by arbitration shall be subject to revision whenever changed conditions justify, but not oftener than at intervals of six months.

ARTICLE XX. AMENDMENT OR TERMINATION OF PLAN

1. This plan may be amended by the Works Council of any Works by a majority vote of all the duly elected employee representatives together with a majority vote of all the management representatives. Amendments must be proposed in writing at a regular meeting, and no vote shall be taken thereon until the regular meeting following such presentation. No amendment shall be adopted that will destroy or limit the equal voting power

of the employee representatives and management representatives in the Works Council and General Council.

2. If in the judgment of the President any proposed amendment affects other Works, then he shall call a General Council to consider such amendment. The adoption or rejection of an amendment shall not be the subject of arbitration.

3. This plan may be terminated, at any Works, after six months' notice, by a majority vote of the employees of that Works, or by action of the Board of Directors of the company.

ADOPTION OF PLAN

This plan shall become effective at any Works upon adoption by a majority vote of the employees of such Works voting thereon at a special election held for that purpose.

Additional Points on Conference System

In considering such a system care should be taken that the number of workers to each elected representative is kept sufficiently small to permit of a real contact between the individual worker and the man who is chosen to represent him. The meetings should occur with sufficient frequency to permit plenty of discussion even though they involve, apparently, a large amount of wasted time. The discussion should be encouraged and plenty of questions provided for discussion voluntarily by the management, if the representatives do not bring matters up. This is particularly necessary in the early stages of organization where the understanding has not been developed by any previous regular methods of obtaining free discussions.

The organization for adjustment and review of personal grievances should be as simple as possible. The time involved in arriving at any such decision is of great importance in retaining the spirit of co-operation and nothing should be done to delay the decision unreasonably by the introduction of a great many organization features.

The conference committee should be in close touch

with the responsible management, and the appointed representatives of the management upon that committee should include men of larger responsibilities.

2. The Works Committee Plan

This plan has been adopted very generally and for a good many years in various places. It has been adopted in completely unionized industries and in non-unionized industries. It comprises representatives of the various shop unions in the factory appointed by those unions, or representatives of the various occupational groups within the factory selected by the groups. The works committee plan has been of considerable value in dealing with grievances, adjustments, and questions which might lead to strikes and other visible symptoms of unrest.

It has not adopted any constructive policy except in very few cases, because it has not represented the entire establishment, but only the wage earners in that establishment. It has not had any effect upon the sharp division between labor and the representatives of capital, and it has not succeeded in dismissing the suspicion except in the few cases noted above.

In the few outstanding cases where the works committee has been used as a vehicle for the development of common understanding, the value can be traced to the effectiveness of the management in its human consideration and not to any particular merit in the system itself.

3. The House and Senate Plan

The general plan of this organization exactly parallels the political organization of the United States, consisting as it does of a house of representatives taken from the body of general employees by election, a senate representing those salaried employees who are in charge of the

execution of the plans of the company and the supervision of departments, and a cabinet representing the officers of the firm and the general executives.

In fact, it goes further in this direction in that it calls for a joint standing committee appointed by the house and the senate to act in a similar way to the conference committee of the House and Senate of the United States

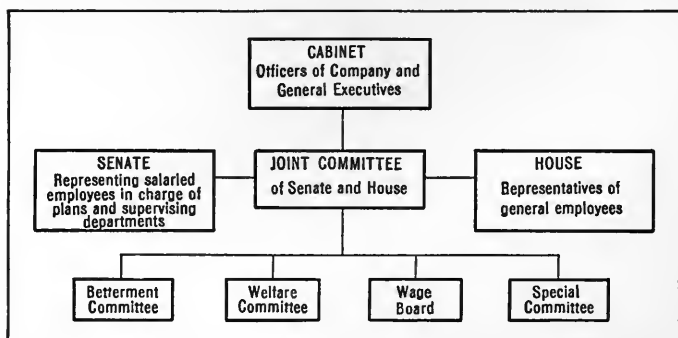


Chart Showing Co-operative Organization for Legislative and Judicial Functions

in bringing about an agreement upon matters of importance, before they are submitted to the Cabinet.

One important difference between the organization for legislative purposes in this company and the political organization under which we all live, is the lack of provision for the carrying of a regulation or policy over the veto of the president. But in practice this is not very important, as the combined agreement of the house and senate upon a matter has been accepted as usual practice and put into operation by the cabinet.

There are a number of points which should be called to the attention of the man who is interested in labor developments in this type of organization. It has been used

mainly in organizations of a smaller size carrying on the pay-rolls less than 1,000 workers, and some of its provisions would not be applicable to organizations of a much larger character. It has been used also where the turnover is not quite so large as the usual percentage to be observed in the basic industries, and where the permanence of the employees has resulted in an agreement and a co-ordination that will be impossible for a long time in industries where the turnover is large.

House of Representatives

To be eligible for election to the house of representatives, an employee must have been in the employ of the company continuously for at least six months.

It is to be noted that every department of the company is privileged to elect one representative, no matter how small a department may be. This is a significant departure from the plans presented, so far, in the conference system, where the election of representatives is determined by the plant or geographical location and not by the departments.

The number of employees to each representative is, of course, governed by the size of the establishment and has no particular bearing upon the success of the scheme.

The Senate

The procedure in developing the senate is quite different. There is no election in this case, but the new member is appointed by the members of the senate by a majority vote, after the applicant has secured the indorsement of the company and not less than one member of the senate. The senate, in other words, represents the detailed operating supervision of the organization, and its value arises out of its familiarity with the necessities and condi-

tions in each department and not out of the fact that it consists of employees. All members of the senate having charge of plans and supervision are representatives of the officers, equipped, however, with a much more intimate knowledge of the necessities and the conditions.

This provision of the senate as a standing body is an extension of the committee system, among department heads, so as to bring it into co-ordination with the house of representatives as a part of the legislative machinery. It will be noted that here again there is a definite departure from the practice as outlined in the plans for the conference system.

Of course it is true that in most of the large concerns adopting the conference plan, the committee system between heads of departments is a regular part of the business procedure, but so far it has not been co-ordinated definitely with the other machinery as a part of the legislative organization.

The Cabinet

Those supervisors who are handling the detail operation of the various departments of a manufacturing organization should be able to arrive at an agreement with the employees' representatives, so that the matter submitted to the cabinet would represent not merely a demand from the employees but an agreement between all those immediately concerned with the matters discussed.

Under this plan the time of the general executives and the officers of the company could be conserved so that the agreements would be arrived at more rapidly, a great many matters disposed of without reaching the heads of the institution, and in addition the minor executives would be trained thoroughly in the methods of handling human

relations in industry to the great advantage of the whole institution.

Broad Scope of Matters for Discussion

It will also be noted that in this plan the jurisdiction of the house and senate is not restricted to the discussion of certain matters, but that it may consider any matters that affect the interests of the employees or the concern. This has, of course, its disadvantages as well as its advantages.

If the organization were not functioning properly, a great deal of time might be wasted by the discussion of matters impossible of solution and the intrusion in affairs concerning the operations and not the legislation of the business. On the other hand, the agreement between the employees and the supervisors, through the medium of the machinery provided in this way, might be carried much farther and conduce to a much greater degree of understanding without limitations usually imposed upon the business of such bodies.

In actual practice, in the course of the three or four years, the members of both bodies have come together sufficiently in their understanding of their value to the organization, so that their discussions are devoted to pertinent matters, and their agreements have been valuable to the business.

Joint Committee

The judicial procedure in the review of complaints carries a complaint to a sub-committee of a joint conference committee, consisting of an equal number of representatives from the house and the senate. This committee reviews the case and makes a decision. If this review is not satisfactory to the employee, he may appeal

to the house and senate. They appoint a special board for the purpose of acting upon the case, this board consisting of two members of both houses and a fifth brought in by mutual consent. The decision of this board is final. It may reinstate, it may discharge, but there is no appeal from its decision.

American Multigraph Plan

A typical example of the house and senate plan in the organization and the method of its adoption is shown in the case of the American Multigraph Company.

The character of the organization in the American Multigraph Company was favorable to the work of preparing the ground for the constitutional plan of organization. There are in that plant no aliens, although there are some foreign-born citizens. The percentage of illiteracy is very low, sufficiently so to be negligible, and the mixture of races is not great enough to be an important factor.

Because of these facts, the measure of understanding secured after the two years' preparatory work was much greater than could be expected in a similar time in organizations of a larger size with a mixed racial condition. It is realised in this organization, however, that the educational work has just begun and that it must be continued right through, using the constitutional plan of organization as the means of its continuance so that the employees themselves will have a proper voice in its character and growth.

When the two years of preparation were over and the company felt that the time had come to put in the constitutional plan, a booklet was carefully prepared dealing with this plan, and the preamble to this booklet was arranged so that it would indicate the reason for the plan,

the hopes of the company, and the necessity for co-operative agreement and action upon many common matters of organization. There is nothing in the plan at all, or in the booklet, which indicates that the company reserves the right to do this, that, or the other, but the booklet is entirely concerned with the character of the organization, the methods of election, publicity, the scope and duties of the various bodies, and consequently, the co-ordination of the whole matter.

The booklet distributed by the American Multigraph organization deals with the thing in a logical way, emphasizing the possibilities which are contained in the organization development proposed by the company, and indicating the obligations which will arise out of this new development in the co-operation of the workers with the management.

The preamble contained in the booklet is given herewith in order to indicate the manner of introducing the subject.

PREAMBLE

In order to provide for and maintain an effective, unbroken contact between the management of The American Multigraph Company and the employees, as well as to institute in our organization the same principles of democracy that have proven so beneficial in our National Government, it has been deemed wise that the following plan of co-operative management become effective March 1, 1919.

In setting forth upon this new idea, but one thought has been uppermost in our minds—to give as far as possible to each employee, regardless of position, a speedy and convenient means of making his thoughts and opinions known. In other words, to create machinery whereby all employees, through their representative bodies, may suggest to the management changes or improvements in conditions and regulations directly affecting their relations with the company; by this means working with the management the same as the stockholders now work through

their representative bodies—the board of directors and the active executives.

The success of all business of the future lies entirely in the hands of those who make up its organization, through the co-operation of employees, management and stockholders. Success will be attained in the same degree that those three groups work together. Future problems concern each of us, regardless of what our jobs may be. A business such as ours demands that every one connected with our organization from top to bottom shall give their best thought to the working out of the problems that come up from time to time.

We believe that the plan as proposed and outlined should help us solve the difficulties arising in our industrial life. We believe that the means provided will restore to industry that intimate touch of management with employees which has become almost impossible to maintain in modern business, due to the larger units with which we work.

By this plan we believe that the management may be kept in close personal contact with all those elements which, when working together in complete co-operation and harmony, will enable the company to serve the business world with our products with greater efficiency and increased benefits to all concerned.

The rest of the organization plan is not given because it is sufficiently similar to other organization developments of the kind to make it unnecessary to give the clauses in detail.

It should, be noted, however, that in this organization no distinction is made between salaried employees and employees who are working on other schedules. No distinction is made between male and female employees.

Instead of dividing the organization into the house and senate as usually adopted under the constitutional plan, the organization is divided into congress and senate, and the composition of the congress is somewhat different from the usual practice. The first paragraph of the organization of the employees' congress indicates this difference.

ORGANIZATION

1. The Congress shall be composed of 24 members, 12 of whom are elected by the employees and 12 of whom are appointed to office by the President.

The usual practice has been to elect a house of representatives, not only entirely composed of workers, but all of the members being elected by the workers. It will be noted that while the congress organization in this case is a congress of workers, twelve of these workers are elected by the employees and twelve appointed to office by the president of the company. This is a radical departure from the usual practice.

Another radical departure in the usual procedure is to be observed in the variation in the term of office. In this respect paragraph 6, in regard to the terms of office of the congress, is as follows:

TERM OF OFFICE

6. Beginning with the second election all terms of office shall be for one year, four members being elected and four appointed each year. For the purpose of organization, however, the first Congress shall be made up as follows: Of the twelve elected by the employees, the four receiving the greatest number of votes shall serve for 3 years from the day elected; the next four shall serve for 2 years and the next four for 1 year. The twelve appointed to office by the President shall be divided and serve for terms similar to the elected twelve, the President being required to designate who are the individuals serving the various terms.

The provision in respect of a quorum is evidently intended to secure against a minority of the members initiating any legislation at any meeting and so make it uncertain as to whether legislative action by the congress has been with the approval of approximately the full body. This requires that three-quarters of the total membership

must be present at any meeting which convenes, and a majority vote of the members present is necessary to pass any measure.

The senate in this particular case includes the production manager, chief engineer, superintendent, advertising manager, sales director, chief inventor, chief inspector, the manager of industrial relations, purchasing agent, auditor, vice-president, and the heads of such other departments or divisions as may be established from time to time.

There have been two amendments to the constitution originally presented up to the time when the booklet was prepared. When a measure has been passed by the congress and senate and approved by the cabinet, notification is immediately given to all employees by means of posters set up in various departments of the plant. In addition, the factory house organ publishes a regular monthly report and complete publicity is given to all measures. The house organ is in charge of the manager of industrial relations and consists largely of contributions by the various employees in the factory.

In putting the plan into effect, a letter was sent to each employee on Saturday of one week asking them to give the booklet a careful reading between the Saturday and the return to work on Monday. This letter was sent to the homes of all employees. They were asked not only to read it, but to talk about it to their family and their friends, and then asked if they would come Monday morning to the office of the president and tell him whether they thought the company was on the right track.

The reports show that the president personally interviewed, or came in contact with, 98 per cent of the employees in connection with the plan. Most of the workers

pledged their support. Many of the workers were neutral and a certain number actively suspicious.

With those who were actively suspicious the president of the company made a deal whereby they undertook to do nothing to question the system for six months, and at the end of six months to appear in the president's office and talk things over with him.

Each employee signed a card stating his opinion of the matter, and all of these cards are kept so that, when the six months are up, all those who commented unfavorably on the plan will be followed up so that they fulfill their promise and register their opinion whatever it may be. The character of the letter which was sent out at the time of the adoption of the plan, like all the promotion material on this particular application, is interesting, and for that reason we are publishing it.

THE PERSONAL APPEAL

MARY BORNA,
CITY.

I hope you will find time between now and Monday to give the enclosed booklet a careful reading. That's the one big reason why I'm sending it to your home.

The new idea described in the booklet is worthy of your best thought. Talk about it to your friends and family—and when you come in Monday morning I will consider it a big favor if you'll come to my office and tell me whether or not you think we're on the right track.

Will you do that?

From now on, you will be urged to use your brain in working out our problems, just as you are asked to use your hands in producing the work.

It means the beginning of Industrial Democracy, as a basis of management, in the American Multigraph Company. Through the representation provided, your thoughts and suggestions will be considered in the laying out of company policies and regulations.

We expect the plan to produce great things. It will mean progress and benefits to us all. Of course, it is going to add to our responsibilities, too—especially for the representatives and those who are elected to Congress—but the honor will be worth the extra effort.

To me it represents an idea that has taken us many years to work out. I hope it will mean that we can work with greater co-operation and added efficiency.

The biggest result to wish for is contentment. If, through the workings of this plan, cheerfulness and good will toward others can be multiplied, then we need have no fears for the success of Industrial Democracy in our plant.

Just now I want your support. If you think the idea a good one, say so, and then pledge yourself to help make it good!

Sincerely yours,

H. C. OSBORN,

President

Experiments in House and Senate Plan

Some of the experiments developed along these lines have been in use for ten years or longer. In some cases they have been notably successful, in other cases fairly successful, and in a few other cases they have failed. In the cases where they have been notably successful, they have not only eliminated the strike, but they have permitted a degree of efficiency rarely discovered in the ordinary plant management. In these cases where they have been carried on for a number of years, the group incentive and the individual incentive have been developed to a considerable degree, so that there is a direct spur to efficiency in the different departments or groups within the plant.

Practically all of these cases have been successful in eliminating the strike during periods when strikes were prevalent in lines of industry in which the experiments are placed. In some notable cases, the interest developed by the workers has been sufficient to reduce the labor

cost in a period of ascending prices, and to settle the matter of working hours in a period of short time without any friction or disagreement. This plan has not been tried in the very large organizations; the conference plan is the only plan to make any headway in such plants.

The effects have been generally good in the limited time during which the experiments have been going on, and the establishments where these changes have been made are enthusiastic about their value.

There are many modifications of these plans that have been adopted by individual concerns during the last three or four years. The number of experimental developments of this kind reaches several hundred in the United States, most of which experiments are too new to indicate their values, except very indefinitely. There are a number of concerns conspicuous for their success in maintaining a co-operative organization, who have adopted no particular system and whose success in avoiding industrial trouble is not linked up with any special method. All these systems must be regarded merely as providing the machinery through which a common basis of understanding can be arrived at more readily, if the spirit of co-operation and fair dealing is recognized by the management as the basis of development. They do not possess any intrinsic value in this, and they are interesting only because they start with the factory as the industrial unit. They attempt to provide a basis of understanding and co-operation within the individual factory. Where the groups are small enough to come together, and where the problems are visible enough to be made the basis of a reasonable measure of agreement, they offer considerable hope because they indicate the desire of many manufacturers to get together on some decent basis with their employees and work out the problem.

Their success has been considerable in the limited time during which they have been operating. There is more hope of positive instructive development from their operations, and each year of their progress eliminates some of the unnecessary motions and inefficiencies.

CHAPTER XIII

USING LABOR UNION MACHINERY

The Whitley Plan in Great Britain

The war brought forcibly to the front the necessity for some machinery of an impartial character that could be instituted to deal with the disagreements between the labor unions and employers' groups. The necessity for unity of purpose in the prosecution of the war called for machinery of a local and a national character to function in this respect.

In Great Britain with its complete unionization of workers, the lack of any such machinery was felt very keenly and a commission was appointed to suggest methods of organization and development. This commission brought in a report known as the Whitley report recommending a plan that has been discussed in many countries as the Whitley plan.

It is not possible to deal with the whole of the Whitley plan in its details in this chapter and it is unnecessary because the full reports are available to any man who is interested.

This report called for joint national industrial councils, with the object of securing the largest possible measure of joint action between employers and work people, for the development of industry as a part of national life, and for the improvement of conditions of all engaged in that industry.

These joint councils review wages and hours, safeguards, unemployment, regularity of employment, and

the other problems connected with the labor question. Such councils are made up of the necessary number of members, one-half to be appointed by associations of employers and the other half by trade unions.

A great deal of latitude was left to the various joint councils in constitution and procedure, although the objects in a general way are fixed with a fair degree of definition.

The general provision of the Council requires the appointment of a chairman from one side and vice-chairman from the other side, neither of whom shall have a casting vote.

The general provisions call for not less than four meetings per year, the establishment of a definite forum by the industry involved, and the meeting of administrative expenses by the employers and trade unions in equal proportions.

The national councils are privileged to appoint district councils having the same general function and the same arrangement of membership. The minutes of the meeting of the district councils are to be forwarded to the national councils within one week of each meeting, and the constitutions of the district councils are to be approved by the national council in each case.

The machinery further provides for works committees in the different industrial establishments; the general character of the works committee provides that in each case the number and the distribution of membership shall be agreed to by the parties in interest. The representatives of the management to be appointed by the concern, and the employees' representatives to be elected from among the trade unions.

A great many of these councils have been formed in the last two or three years and are continuing their opera-

tions in the industries in which they have been developed. This method takes cognizance only of organized associations of employers and organized associations of workers. It does not attempt to create new machinery of organization, nor does it attempt to deal with the question according to the individual establishment without regard to the union organization.

Industrial Councils in the United States

In the United States the Second Industrial Conference Committee, called by President Wilson and of which Mr. Hoover was vice-chairman, developed a plan for a national industrial council, regional councils, and local councils for the adjustment of labor problems within the industries affected, with no obligation to abide by the agreement or to use the machinery so suggested.

The suggestive composition of the national industrial councils and the other councils by the Second Industrial Conference of the United States varies sufficiently from the report of the Whitley plan in Great Britain and from the actual operation of the Whitley plan to merit separate consideration.

This report of the industrial conference presided over by Mr. Herbert Hoover takes cognizance of the industrial unit and the desirability of establishing orderly co-operation within the industrial unit. The plan of settlement suggested by the conference does not take the place of this work within the industrial establishment and it does not require the association of employers or labor into organizations of a specific character as the Whitley plan does. In other words, it is more flexible and less ponderous in its machinery and more adaptable in its development, recognizing thoroughly the experiments which are taking place and the advantage of due regard to these

experiments. Because of their pertinence certain sections of this report are quoted in the following part of the chapter together with certain sections of the Whitley report.

The Whitley method is in use in Great Britain. The suggestions of the conference have not been adopted as yet in the United States.

Whitley Report—Industrial Councils

The functions of the national joint industrial councils are outlined in the following extract from the Whitley report:

I. SUGGESTIONS AS TO THE CONSTITUTION AND FUNCTIONS OF A NATIONAL JOINT INDUSTRIAL COUNCIL

The Whitley Report on Joint Standing Industrial Councils, in discussing the constitution and functions of such Councils, recommended that it should be left to the trades or professions themselves to constitute schemes suitable to their special circumstances. The object of the following memorandum is not to lay down any hard and fast rules as to the constitution and functions of an Industrial Council, but to put forward certain suggestions which may serve as a basis for discussion and help in concentrating attention upon some outstanding points in the relations of employers and workpeople which must be taken into consideration in the actual formation of a Council. All the clauses which follow are drawn from constitutions already adopted. To these clauses variants, also drawn from constitutions of Councils already established, have been added in different type.

At 31st December, 1919, Joint Industrial Councils had been established for the following industries:—

Admiralty (Industrial Establishments)	Building
Asbestos Manufacture	Carpet Manufacture
Bobbin and Shuttle Making	Cement
Boot and Shoe Manufacture	China Clay
Bread Baking and Flour Confectionery (England)	Civil Service (Administrative and Legal Departments)
Bread Baking and Flour Confectionery (Scotland)	Coir Mat and Matting
	Elastic Web, Cord, Braid and Smallwares Fabric

Electrical CABLEMAKING	Tackle and Allied Trades
Electrical Contracting	Office of Works (Industrial Establishments)
Electricity Supply	Packing-case Making
Flour Milling	Paint, Colour and Varnish
Furniture	Pottery
Gas Undertakings	Printing and Allied Trades
Gold, Silver, Horological and Allied Trades	Quarrying
Heating and Domestic Engineering	Road Transport
Heavy Chemicals	Rubber Manufacture
Hosiery (English)	Sawmilling
Hosiery (Scottish)	Silk
Iron and Steel Wire Manufacture	Spelter Trade
Local Authorities Non-Trading Services (Manual Workers)	Tin Mining
Made-up Leather Goods	Tramways
Match Manufacture	Vehicle Building
Metallic Bedsteads	Wall-paper Making
Music Trades	Waterworks Undertakings
Needles, Fish-hooks, Fishing	Welsh Plate and Sheet Trades
	Wool (and Allied) Textiles
	Woolen and Worsted (Scottish)
	Wrought Hollow-ware

THE COUNCIL SHALL BE CALLED THE JOINT INDUSTRIAL COUNCIL FOR THE..... INDUSTRY

Note.—It is important that the scope of a Joint Industrial Council for an industry should, so far as possible, be carefully defined beforehand, in view of the widespread organization of industry generally into joint bodies. Such definition, though possibly leading to delay at the outset, would prevent later the inevitable difficulties of demarcation.

(A) FUNCTIONS OF A JOINT INDUSTRIAL COUNCIL

I. To secure the largest possible measure of joint action between employers and workpeople for the development of the industry as a part of national life and for the improvement of the conditions of all engaged in that industry.

It will be open to the Council to take any action that falls within the scope of the general definition. Among its more specific objects will be the following.

N.B.—It is not possible and it is not the intention of the Minister to suggest any hard and fast policy as to what should constitute the functions of an Industrial Council. This is a question which the employers and workpeople in each industry must settle for themselves in their preliminary conferences in the light of their special needs and conditions.

(a) The advancement of the industry and of all connected with it in its productive interest. (Paint, Colour and Varnish; Iron, Steel Wire Manufacturing.)

(b) To secure the largest possible measure of joint action between employers and workpeople for the safe-guarding and development of the industry as a part of national life and for the general improvement of conditions in the industry with a view to promoting the best interests of all employers and workers engaged therein. (Bobbin and Shuttle Making; Iron and Steel Wire Manufacturing.)

(c) The advancement of the industry and of all connected therewith by the association in its government of all engaged in the industry as a whole. (Vehicle Building; Elastic Web, Cord, Braid, Smallwares Fabric; British Coir Mat and Matting.)

(d) To promote the development of the industry and to secure that wages, methods of production, and conditions of employment shall be systematically reviewed and decisions agreed upon which shall have as their object the improvement of the relations between employers and employees. (Wool and Allied Textile.)

(e) To promote the best interests and the highest development of the industry; to secure that conditions of employment shall be systematically reviewed; to secure that all decisions agreed upon shall have as their object the improvement of the relations between employers and workmen, and the progress of the industry as a whole. (Wall Paper Makers.)

(f) To promote good relationship between employers and employed; to secure co-operation and the recognition of mutual interests; to encourage direct contact between employers and workers; to devise ways and means of settling any differences that may arise; to resist the action of those who would injure the fair standard of prices and wages by disposing of their goods or labour at less than the standard mutually agreed upon; and to do all things possible for the betterment of the trade and the improvement of its conditions. (Printing and Allied Trades.)

(g) To secure the greatest measure of co-operation between the State in its capacity as employer, and the general body of Civil Servants in matters affecting the Civil Service, with a view to increased efficiency in the public service combined with the well-being of those employed; to provide machinery for dealing with grievances, and generally to bring together the experience and different points of view of representatives of the administrative,

clerical and manipulative Civil Service. (Civil Service Administrative and Legal Departments.)

(h) To secure, by means of regular joint discussion between official representatives of H.M. Office of Works and representatives of the trade unions having members employed in the industrial establishments of the Department the fullest measure of co-operation in their administration and work in the national interests, and with a view to the increased well-being of all employed therein. It will be open to the Council to consider any matters that fall within the scope of this general definition except such as are specifically reserved as the exclusive functions of a Trade Joint Council. (Office of Works Departmental Joint Council.)

2. Regular consideration of wages, hours and working conditions in the industry as a whole.

N.B.—(1) In some cases a Joint Industrial Council will contain representatives of a number of trades which have been accustomed in the past to deal with such questions as wages, hours, &c., through their already existing organizations. To meet such cases the following clause has been inserted in one of the draft constitutions: "Provided that where any such matters have in the past been dealt with separately by any Organisation, such matters shall not be dealt with by the Council as far as that Organisation is concerned without the consent of the representatives of that Organisation."

(2) In the case of an industry which comprises a number of distinct sections each with its own processes or occupations it may be thought desirable to form Sectional Councils, under the National Council, possessing a certain measure of autonomy. In such cases the following clause is suggested: "It shall be within the province of the Joint Industrial Council to establish Sectional Councils with such powers as may be deemed expedient by the National Council."

(a) The consideration of wages, hours and working conditions in the industry as a whole, including the consideration of the establishment and maintenance of standard national and local rates and conditions for all classes of workers throughout the industry. (Bobbin and Shuttle Making Industry.)

(b) The regular consideration of wages, hours and working conditions in the industry, with a view to establishing and main-

taining such conditions as shall be equitable as between employer and employed. Provided always that the various sub-sections of the trade and industry shall be considered separately, with due regard to their respective peculiar conditions. (Paint, Colour and Varnish Industry; Flour Milling almost identical.)

(c) Consider wages, hours, and working conditions in the industry as a whole, and the fixing of standard rates of wages for similar occupations in the industry. It shall also consider the employment of scientific and agreed methods of fixing wages, and of adjusting wages to new conditions, and the securing to the employee a share in any increased prosperity of the industry. (Wool and Allied Textile.)

(d) The regular consideration of wages, contract prices and conditions generally with a view to establishing and maintaining equitable conditions throughout the industry. (Tin Mining Industry.)

(e) It shall be within the province of the Joint Industrial Council to deal with matters relating to wages and hours only when such matters are referred to it by one of the Sectional Councils. (Glass Industry.)

(f) The consideration of wages, hours and working conditions in the industry as a whole. In order to enable the Council to deal with these matters as far as they concern workers in the industry who are members of an organisation not represented upon the Council, the Council may take steps to secure the co-operation or representation of such workers' organisation for these purposes. (Gas Industry.)

(g) To establish uniform working hours and conditions. To assist in the maintenance of such selling prices as will afford reasonable remuneration to both employers and employees. To secure recognition by all persons in the trade of agreements relating to wages and working conditions. (Printing and Allied Trades.)

3. The consideration of measures for regularising production and employment.

(a) The consideration of measures for securing maximum production and regular employment. (Rubber Manufacturing Industry.)

(b) The adjustment of production so as to obtain the maximum economic output while minimising the disadvantages of

seasonal occupation. (Gold, Silver, Horological and Allied Trades.)

(c) The consideration of means whereby the greatest possible security and continuity of employment shall be ensured to the employees. (China Clay Industry.)

(d) The regularisation of production and employment as a means of ensuring to the workpeople the greatest possible security of earnings. (Pottery Industry.)

(e) To establish means of ensuring to the workpeople the greatest possible security of earnings and employment, without restriction upon change of employer; and to endeavour to minimise unemployment and casual labour. (Printing and Allied Trades.)

(f) Efforts for the decasualisation and the permanent security of employment. (Wall-paper Making.)

(g) The consideration of the movement of trade in order as far as possible by concerted action to lessen the effects of fluctuation of demand and promote steadiness of employment and earnings. (Wrought Hollow-ware Industry.)

(h) The adjustment of production so as to obtain the maximum economic output while minimising the disadvantages of seasonal occupation. (Quarrying Industry.)

4. The consideration of the existing machinery for the settlement of differences between different parties and sections in the industry, and the establishment of machinery for this purpose where it does not already exist, with the object of securing the speedy settlements of difficulties.

(a) The consideration of differences that may have arisen within local Associations or existing Conciliation Boards which cannot be settled locally. No strike, lock-out or arbitration shall take place in the locality concerned until the matter has been considered by the National Joint Industrial Council. (Made-up Leather Goods Industry.)

(b) The consideration of means for securing the speedy settlement of disputes between different parties in the industry, which it may not have been possible to settle by negotiation between the parties concerned. (Paint, Colour and Varnish Industry.)

(c) The consideration and settlement if possible of all disputes between the different parties in the Industry, which it may not

have been possible to settle by direct negotiations between the parties concerned, and the establishment of machinery for this purpose. (Tin Mining Industry.)

(d) The establishment of regular methods and negotiations on issues between employers and workpeople, and upon differences which may be reported, with a view to the prevention of differences and their equitable adjustment. This shall not destroy the right of individual workers to approach their employers on any matter which concerns them personally. (Wall-paper Making.)

(e) The Council shall in furtherance of its objects appoint an Arbitration Panel composed of representatives from each side who shall hold office for twelve months. Upon a dispute arising each side of the Council shall appoint representatives from the Panel to sit as an Arbitration Court whose decision shall be final. The Arbitration Panel shall previously decide upon an umpire to whom in the event of the Arbitrators failing to reach an agreement, the matter shall be referred for a final decision. Carpet Trades.)

Note.—Several Councils have delegated either to their executive committees or to special committees the duty of arbitration in disputes.

5. The consideration of measures for securing the inclusion of all employers and workpeople in their respective associations.

(a) The consideration of means whereby all manufacturers and operatives shall be encouraged to come within their respective Associations. (Silk Industry.)

(b) The consideration and adoption of measures for securing the inclusion of all employers and operatives in their respective organisations, and for securing the loyal observance by them of collective agreements. (Rubber Manufacturing: Iron and Steel Wire Manufacturing: Cement Manufacturing.)

(c) To endeavour, in order to carry out the work of the Industrial Council, to secure complete organisation of Employers and Employees throughout the trade. (Printing and Allied Trades.)

(d) The consideration of measures for securing the inclusion of all employers and workpeople in their respective Associations and the adoption of the conclusions of the Council by all employers and workpeople in the industry. (British Coir Mat and Matting Industry.)

6. The collection of statistics and information on matters appertaining to the industry.

(a) The regular consideration of, and the compilation of, available statistics as to wages, working costs, fluctuations in the cost of materials and Customs tariffs, and the study and promotion of scientific and practical systems of account keeping. (Silk Industry; Quarrying Industry.)

(b) The collection and publication of statistics and information on matters appertaining to the Industry, as and when agreed, and to industries whose existence affects the industry. (Gas Industry.)

7. The encouragement of the study of processes and design and of research, with a view to perfecting the products of the industry.

(a) The encouragement of the study of processes and design and of research with a view to perfecting the products of the industry, and the promotion of a high standard of efficiency. (Hosiery Trade.)

(b) The encouragement of study and research with a view to the improvement and perfection of the quality of the product, and of machinery and methods for economical manufacture in all branches of the industry. (Match Manufacturing Industry.)

(c) The study of processes, the encouragement of research, and the full utilisation of their results. (Paint, Colour and Varnish Industry.)

(d) The improvement of processes, designs, and standards of workmanship; to seek adequate representation on the control and management of all technical institutes; to consider and report upon all improvements of processes, machinery and organisation, and appropriate questions relating to management and the examination of industrial experiments, with special reference to co-operation in carrying new ideas into effect, and full consideration of the workpeople's point of view in relation thereto. (Printing and Allied Trades.)

(e) The encouragement of the study of processes and of research with a view to obtaining a maximum extraction of the contents of the ore, improved methods for winning the ore, and all matters incidental thereto, also the study of Mining Geology

and the origin of ore deposits and full utilisation of results. (Tin Mining Industry.)

(f) The encouragement of the study of processes and of research, with a view to perfecting the products of the industry, the most effective utilisation of such products, and the promotion of a high standard of efficiency. (Gas Industry.)

(g) The encouragement of study and research with a view to the improvement and perfection of the quality of the product, and of machinery and methods for economical manufacture and the full utilisation of their results in all branches of the industry. (Boot and Shoe Manufacturing Industry.)

(h) To promote industrial research and the full utilisation of its result and the fullest co-operation in and encouragement of inventions and all new methods and processes by which output may be increased, quality of goods ensured, and the international standing of British wall-paper production maintained. (Wall-paper Making.)

8. The provision of facilities for the full consideration and utilisation of inventions and any improvement in machinery or method, and for the adequate safeguarding of the rights of the designers of such improvements, and to secure that such improvement in method or invention shall give to each party an equitable share of the benefits financially or otherwise arising therefrom.

(a) The provision of facilities for the full consideration and utilisation of inventions and improvements designed by workpeople and for adequate safeguarding of the rights of the designers of such improvements. (Paint, Colour and Varnish Industry.)

(b) The consideration of the question of technical improvements made by workpeople and the establishment of a special Committee consisting of Chairman and Vice-Chairman for the time being of the Council as arbitrators in cases in which an employer and workman are unable to come to an agreement as to the proper reward for such an improvement. (Hosiery Trade.)

(c) The adequate safeguarding of the rights of operatives inventing or designing improvements. (Rubber Manufacturing Industry.)

(d) Consider the best means of securing the highest efficiency of the industry including any improvement in machinery, inven-

tion, or method by which the prosperity of the industry is to be increased; secure that such invention or improvement in method shall give to each party a fair distribution of the benefits derived from the increased efficiency; utilise to the fullest extent the practical knowledge and experience of the workpeople and secure that such knowledge may receive consideration. (Wool and Allied Textile; Iron and Steel Wire Manufacturing; Cement Manufacturing.)

(e) The better utilisation of the practical knowledge and experience of the workpeople, with provision of facilities for the full consideration and utilisation of acceptable inventions and improvements designed by employers or workpeople, and for the adequate safeguarding of the rights of the designers of such improvements. (Printing and Allied Trades.)

(f) The consideration of the best means of securing the highest efficiency of the Department's establishments, including inventions, and any improvements in machinery, methods of organisation by which this can be attained; to secure that such inventions or improvements shall give to each party a fair distribution of the benefits derived from the increased efficiency; the utilisation to the fullest extent of the practical knowledge and experience of the workpeople, and the creation of facilities for such knowledge to receive adequate consideration. (Admiralty and Office of Works Departmental Joint Councils: Industrial Establishments.)

(g) Improvement of office machinery and organisation and the provision of opportunities for the full consideration of suggestions by the staff on this subject. (Civil Service Administrative and Legal Departments.)

9. Inquiries into special problems of the industry, including the comparative study of the organisation and methods of the industry in this and other countries, and, where desirable, the publication of reports. The arrangement of lectures and the holding of conferences on subjects of general interest to the industry.

(a) The preparation and consideration of statistics and reports relating to the industry throughout the world, and the effect on the industry of Customs and Excise duties. (Match Manufacturing Industry.)

(b) Enquiries into special problems of the industry including

comparative study of the organisation, wages, working conditions and methods of the industry in this and other countries. (Flour Milling Industry.)

(c) The periodical publication and circulation among workers in the industry of a journal containing matters of general interest to the Industry. (Gas Industry.)

10. The improvement of the health conditions obtaining in the industry, and the provision of special treatment where necessary for workers in the industry.

(a) The improvement of conditions with a view to removing danger to health and risks of accident in the industry. (Bread Baking and Flour Confectionery Industry.)

(b) Secure to the workman a greater share in and responsibility for the determination and observance of the conditions under which he works, in so far as it relates to his material comfort and well-being; make efforts for the decasualisation and permanent security of employment, having regard to the conditions surrounding changes of occupation between one employer and another; consider means towards the improvement in conditions with a view to removing the danger to health in the industry, and towards providing special treatment where necessary for employees in the industry. (Wool and Allied Textile.)

(c) To insist upon clean, healthy workshops; to encourage full and proper ventilation, clean surroundings, and decent habits; to promote the systematic observation of the health of the work-people generally, and especially of young persons of both sexes until they reach the age of 18, in continuation of the methods in use in public elementary schools, and to combat the scourge of tuberculosis. To this end the National Executive shall inquire and report upon the advisability of the creation of sanatoria, &c., controlled by the National Executive or otherwise; in this connection to secure the services of medical inspectors to the end that men and women suffering from tuberculosis shall be ordered to cease work immediately and to receive treatment at the institutions referred to, and to provide that some maintenance grant be provided to them during their stay in the sanatorium. (Printing and Allied Trades.)

(d) The improvement of the health conditions obtaining in the Industry, the prevention of accidents and the provision of

special treatment where necessary, giving special consideration to Miner's Phthisis. (Tin Mining Industry.)

(e) The improvement of health conditions (including housing), of workers employed in the services concerned, and the provision of special treatment, where necessary, for workers in the services. (Local Authorities Non-Trading Services.)

(f) The improvement of the health conditions obtaining in the industries and the inculcation of knowledge as to the advantages of ventilation and cleanliness. (Needles, Fish-hooks, Fishing Tackle and Allied Trades.)

(g) The consideration of the means to be taken to lessen the dangers to health in the industry. (Wrought Hollow-ware.)

(h) The maintenance of a high standard of health among the workers in the various establishments, and the consideration of problems relating to welfare, industrial fatigue, factory and workshop equipment, &c., in their relation to health and efficiency. (Admiralty and Office of Works Departmental Joint Councils: Industrial Establishments.)

11. The supervision of entry into, and training for, the industry, and co-operation with the educational authorities in arranging education in all its branches for the industry.

(a) To take in hand the question of apprenticeship conditions; the adoption of suitable methods of selection for apprenticeship, and the technical training for apprentices, learners and journeymen throughout the industry; the removal of blind-alley occupations. (Printing and Allied Trades.)

(b) The study of and encouragement in technical education for training young people and co-operation with the Educational Authorities for this purpose. The selection of suitable candidates for special training. The provision of competitions, prizes and special courses of lectures or other training. (Wall-paper Makers.)

(c) The consideration of the conditions of entry into, and training in the various establishments concerned, in conjunction with the Trade Joint Councils where necessary, and of educational questions in relation thereto. (Admiralty and Office of Works Departmental Joint Councils: Industrial Establishments.)

(d) The encouragement of the further education of Civil Servants and their training in higher administration and organisation. (Civil Service: Administrative and Legal Departments.)

12. The issue to the Press of authoritative statements upon matters affecting the industry of general interest to the community.

(a) The issue to the press of authoritative statements, after agreement, signed by the chairman, vice-chairman, and secretaries, upon matters affecting the industry of general interest to the community. (Carpet Industry.)

(b) The issue to the press, on the authority of the two secretaries, of authoritative statements upon matters affecting the industry of general interest to the community. No communication shall be made to the press with reference to the proceedings of the Council except by a statement signed by the two secretaries. (Wrought Hollow-ware Industry.)

13. Representation of the needs and opinions of the industry to the Government, Government Departments and other authorities.

(a) The establishment and maintenance of such relations with the Government and Government Departments as shall ensure the industry is consulted before the introduction of legislative or administrative measures which affect or may affect the industry (China Clay Industry; Spelter Trade; Boot and Shoe Manufacturing.)

(b) Representation of the needs and opinions of the industry to Government authorities, central and local, and to the community generally. (Pottery Industry.)

(c) The representation of the needs and opinions of the industries to the Government or Government Departments and Local Authorities, provided that any section of the Council which may desire to do so, shall have the power to present a Minority Report when deemed advisable. (Made-up Leather Goods Industry.)

(d) To consider, report, advise, and make representation upon any proposed legislation affecting the trade; to combine to secure full and proper observance of the House of Commons Fair Wage Resolution by Public Bodies. (Printing and Allied Trades.)

(e) The joint consideration of all legislation affecting the Industry and combined action where such legislation is likely to interfere with its prosperity. (Wall-paper Makers.)

(f) Representation of the needs and the opinions of the Industry to Government Authorities, central and local, and to the community generally. The maintenance of such relations with the

Government as shall ensure that the Council is consulted before the introduction of legislation or administrative measures which may affect the Industry, and the consideration and promotion of legislation for the benefit of the Industry. (Tin Mining Industry.)

(g) Representation of the needs and opinions of the services to Parliament, Government Departments and other authorities. (Local Authorities Non-Trading Services.)

(h) The establishment and maintenance of such relations with the Government and Government Departments as shall ensure that the industry is consulted before the introduction of legislative and administrative measures which affect or may affect the industry. (Spelter Trade.)

14. The consideration of any other matters that may be referred to it by the Government or any Government Department.

(a) The consideration of such matters as may be referred to the Council by the Government, Government Departments or other authorities. (Match Manufacturing Industry; Gas Industry; Iron and Steel Wire Manufacturing.)

(b) The consideration of any matters which may be referred to the Council by any District Council or by any Government Department. (Spelter Trade.)

(c) Consideration of matters coming within the objects of the National Joint Industrial Council that may be referred to it by the Government, Government Departments or other authorities. (Flour Milling Industry.)

(d) To consider, report, advise and make representation upon any proposed legislation affecting the Trade. (Printing and Allied Trades.)

(e) Proposed legislation so far as it has a bearing upon the position of Civil Servants in relation to their employment. (Civil Service Administrative and Legal Departments.)

15. The consideration of the proposals for District Councils and Works Committees, put forward in the Whitley Report, having regard in each case to any such organisations as may already be in existence.

(a) The establishment of such District Councils and Works Committees as may be considered necessary, whose functions shall be defined by the Joint Industrial Council. (Paint, Colour and Varnish Industry.)

(b) The formation of such District Councils and Works Committees as may be considered desirable on the lines suggested in the Whitely Report, and the consideration of proposals and resolutions submitted by such Councils and Committees from time to time. (Match Manufacturing Industry.)

(c) The Council (a) shall establish District Councils, define their functions, and consider proposals and resolutions submitted from time to time by such Councils; (b) may establish Works Committees. (Gas Industry.)

(d) To promote the establishment of Joint District Councils and to determine their constitution, functions, and areas, having regard in each case to any such organization that may already be in existence. To consider the establishment of Works Committees and to determine their functions and constitution, having regard in each case to any such organisation that may already be in existence. (Flour Milling Industry.)

(e) The appointment of a Shop Committee in each Mill. (Wall-paper Making.)

(f) The consideration of arrangements for setting up and adjusting local machinery by way of works, shop or other committees to deal with any or all of the above matters, and the consideration of matters referred to the Council by such committees. (Admiralty and Office of Works Departmental Joint Councils: Industrial Establishments.)

16. Co-operation with the Joint Industrial Councils for other industries to deal with problems of common interest.

(a) The Council shall seek to establish, as occasion and necessity shall arise, Joint Standing Committees with Industrial Councils established in other industries, the decisions of which may prejudice or be prejudiced by the decisions of the Council, or may prejudice the interests of the Wool (and Allied) Textile Trade. (Wool and Allied Textile.)

(b) Co-operation with the Joint Industrial Councils of other Industries to deal with matters of common interest or for the better attainment of any objects of this Council. (Tin Mining Industry.)

(c) May co-operate with the Joint Industrial Councils of, or bodies representing, other industries in order to deal with problems of common interest and establish with such Councils or Bodies Joint Standing Committees for that purpose. (Gas Industry.)

(d) Co-operation with other Departmental Joint Councils or with Trade Joint Councils, or with Joint Industrial Councils in private industry, where necessary, to deal with matters of common interest. (Admiralty and Office of Works Departmental Joint Councils: Industrial Establishments.)

Report of the United States Industrial Conference

The plan for industrial councils suggested by the Second Industrial Conference is given below :

I. GENERAL ORGANIZATION

The guiding thought of the Conference has been that the right relationship between employer and employee can be best promoted by the deliberate organization of that relationship. That organization should begin within the plant itself. Its object should be to organize unity of interest and thus to diminish the area of conflict, and supply by organized cooperation between employers and employees the advantages of that human relationship that existed between them when industries were smaller. Such organization should provide for the joint action of managers and employees in dealing with their common interests. It should emphasize the responsibility of managers to know men at least as intimately as they know materials, and the right and duty of employees to have a knowledge of the industry, its processes and policies. Employees need to understand their relation to the joint endeavor so that they may once more have a creative interest in their work.

Industrial problems vary not only with each industry but in each establishment. Therefore, the strategic place to begin battle with misunderstanding is within the industrial plant itself. Primarily the settlement must come from the bottom, not from the top.

The Conference finds that joint organization of management and employees where undertaken with sincerity and good will has a record of success. The general principles governing such organization are stated at length under the title, "Employee Representation." It is not a field for legislation, because the form which employee representation should take may vary in every plant. The Conference, therefore, does not direct this recommendation to legislators but to managers and employees.

If the joint organization of management and employees in the plant or industry fails to reach a collective agreement, or if without such joint organization, disputes arise which are not settled by existing agencies, then the Conference proposes a system of settlement close at hand and under governmental encouragement, and a minimum of regulation. The entrance of the Government into these problems should be to stimulate further cooperation.

The system of settlement consists of a plan, nation wide in scope, with a National Industrial Board, local Regional Conferences and Boards of Inquiry, as follows:

1. The parties to the dispute may voluntarily submit their differences for settlement to a board, known as a Regional Adjustment Conference. This board consists of four representatives selected by the parties, and four others in their industry chosen by them and familiar with their problems. The board is presided over by a trained government official, the regional chairman, who acts as a conciliator. If a unanimous agreement is reached, it results in a collective bargain having the same effect as if reached by joint organization in the shop.

2. If the Regional Conference fails to agree unanimously, the matter, with certain restrictions, goes, under the agreement of submission, to the National Industrial Board, unless the parties prefer the decision of an umpire selected by them.

3. The voluntary submission to a Regional Adjustment Conference carries with it an agreement by both parties that there shall be no interference with production pending the processes of adjustment.

4. If the parties, or either of them, refuse voluntarily to submit the dispute to the processes of the plan of adjustment, a Regional Board of Inquiry is formed by the regional chairman, of two employers and two employees from the industry, and not parties to the dispute. This Board has the right, under proper safeguards, to subpoena witnesses and records, and the duty to publish its findings as a guide to public opinion. Either of the parties at conflict may join the Board of Inquiry on giving an undertaking that, so far as its side is concerned, it will agree to submit its contention to a Regional Adjustment Conference, and, if both join, a Regional Adjustment Conference is automatically created.

5. The National Industrial Board in Washington has general oversight of the working of the plan.

6. The plan is applicable also to public utilities, but in such cases, the government agency, having power to regulate the service, has two representatives in the Adjustment Conference. Provision is made for prompt report of its findings to the rate regulating body.

The Conference makes no recommendation of a plan to cover steam railroads and other carriers, for which legislation has recently been enacted by Congress.

7. The plan provides machinery for prompt and fair adjustment of wages and working conditions of government employees. It is especially necessary for this class of employees, who should not be permitted to strike.

8. The plan involves no penalties other than those imposed by public opinion. It does not impose compulsory arbitration. It does not deny the right to strike. It does not submit to arbitration the policy of the "closed" or "open" shop.

The plan is national in scope and operation, yet it is decentralized. It is different from anything in operation elsewhere. It is based upon American experience and is designed to meet American conditions. It employs no legal authority except the right of inquiry. Its basic idea is stimulation to settlement of differences by the parties in conflict, and the enlistment of public opinion toward enforcing that method of settlement.

II. PREVENTION OF DISPUTES

JOINT ORGANIZATION THROUGH EMPLOYEE REPRESENTATION

Prevention of disputes is worth more than cure. The Conference feels that a new basis of industrial peace may be found in the further development of the democratic organization of the relations of employers and employees, now widely in progress through the country.

Modern industry, as conducted in large plants, has caused a loss of personal contact between employers and employees. It has also caused, through high specialization and repetitive mechanical processes, a loss of creative interest. But it makes possible a greater production of the material things which contribute to the common resources of the people. Upon these resources an advancing civilization, with a higher common standard of living, must depend.

Direct personal contact in the old manner cannot be restored.

It is necessary, therefore, to find the best possible substitute through democratic representation. Employees need an established channel of expression and an opportunity for responsible consultation on matters which affect them in their relations with their employers and their work. There must be diffused among them a better knowledge of the industry as a whole and of their own relation to its success. Employee representation will not only enable them better to advance their own interests, but will make them more definitely conscious of their own contribution, and their own responsibilities.

Employee representation has been discussed under different names and forms, such as shop committees, shop councils, works councils, representative government in industry and others. But representation is a definite principle rather than a form. The Conference, therefore, prefers the generic term "employee representation." In using this term the Conference has in mind the successful application of the principle to various activities outside, as well as within, the purely industrial field.

From both employers and employees the Conference has received thoughtful and helpful suggestions as to the possibilities, under proper conditions, of employee representation. These suggestions clearly proceed from a genuine desire that this movement may spread in accordance with sound principles and be kept from perversions which would threaten its lasting usefulness by making it an agency of attack rather than a means to peace.

Employee representation organizes the relations of employer and employee so that they regularly come together to deal with their common interests. It is operating successfully under union agreements in organized shops. It is operating in non-union shops, and it is operating in shops where union and non-union men work side by side. In plants working under union agreement, it adds to collective bargaining an agency of cooperation within the plant. It is itself an agency of collective bargaining and cooperation where union agreements do not obtain.

It is idle wholly to deny the existence of conflicting interests between employers and employees. But there are wide areas of activity in which their interests coincide. It is the part of statesmanship to organize identity of interest where it exists in order to reduce the area of conflict. The representative principle is needed to make effective the employee's interest in production, as

well as in wages and working conditions. It is likewise needed to make more effective the employer's interest in the human element of industry.

The idea of employee representation has aroused opposition from two sources. On the one hand, in plants too large for direct personal contact, employers who still adhere to the theory that labor is a commodity, hold off from any form of cooperation with employees. This view is steadily disappearing and will, it is hoped, wholly disappear. On the other hand, a number of trade union leaders regard shop representation as a subtle weapon directed against the union. This thought is apparently based on the fear that it may be used by some employers to undermine the unions. Conceived in that spirit no plan can be a lasting agency of industrial peace.

But occasional misuse of employee representation and the consequent hesitancy of organized labor to endorse it officially, are based on a misconception of the possible and desirable relations between the union and the shop committee. This relation is a complementary, and not a mutually exclusive one. In many plants the trade union and the shop committee are both functioning harmoniously. In some establishments the men are unionized, and the shop committees are composed of union men. In others, some men belong to the trade union while all belong to the shop organization.

The union has had its greatest success in dealing with basic working conditions, and with the general level of wages in organized and partially organized industries and crafts. It has also indirectly exerted an influence on standards in unorganized trades. There is no reason to suppose that in the future this influence will not continue.

Local problems, however, fall naturally within the province of shop committees. No organization covering the whole trade and unfamiliar with special local conditions and the questions that come up from day to day, is by itself in a position to deal with these questions adequately, or to enlist the cooperation of employer and employee in methods to improve production and to reduce strain. Except for trades in which the union itself has operated under a system of employee representation, as it does in shipbuilding and in the manufacture of clothing and in other trades, these internal factors are likely either to be neglected or to be dealt with in a way which does not make for satisfactory cooperation.

The existence of employee representation in plants operating under union agreement does not necessarily reduce the scope of the union representative's work. But matters are more likely to come to him as questions of the application of an agreement rather than as mere grievances. In other words he has greater opportunity for service in negotiation of an essentially conciliatory nature. The fortunate results of such development have been evident in industries in which employee representation and trade unions have for some time been functioning harmoniously.

Employee representation must not be considered solely as a device for settling grievances. It can find success only if it also embodies cooperation in the problem of production. Whatever subjects the representatives come to feel as having a relation to their work, and their effectiveness as members of the plant may come within the field of committee consideration. It is a thing to be undertaken, if at all, in a thoroughgoing way. Representatives must be selected by the employees with absolute freedom. In order to prevent suspicion on any side, selection should be by secret ballot. There must be equal freedom of expression thereafter. All employees must feel absolutely convinced that the management will not discriminate against them in any way because of any activities in connection with shop committees. Meetings should be held frequently and regularly, not merely when specific disputes are threatened. Both sides must be prepared to study the problems presented and must give them patient, serious and open-minded consideration. There should be made available those facilities and facts essential to the formation of soundly based conclusions.

Employee representation offers no royal road to industrial peace. No employer should suppose that merely by installing some system of shop representation he can be assured, without continued effort, of harmony and increased production. Doubtless there will be failures where the plan is adopted as a fad or a panacea. It is only a means whereby sincerity of purpose, frank dealing and the establishment of common interests, may bring mutual advantage.

The development and maintenance of right relations between employer and employee require more than mere organization. Intelligent and wise administration is needed of all those problems of production that directly touch the employee. Conditions affecting human beings in industry were, during the last genera-

tion, largely in charge of men whose special training had been devoted to the mechanical side of production. Much study was given to the machinery and processes upon which men worked. But the factors that contribute to the broader human development and satisfaction of the employee and that lead to increased productivity were too nearly neglected. The elimination of human friction is, even from the point of view of increased production, at least no less important than the elimination of waste in materials, or in mechanical power.

Establishments in which the ultimate management is of necessity widely removed from the employees, require provision for specialized study of industrial relations. But the right concept of human relations in industry, which should be the primary impulse of management, is of full value only when it permeates the entire administrative force. Farsighted executives testify to the advantage gained from careful and painstaking efforts to encourage and educate their foremen in the proper attitude toward employees.

A large proportion of men trained in our engineering and technical schools now pass into executive positions. It is, therefore, desirable that these schools should provide courses of instruction in which the psychological and industrial background for human relations work shall be developed. But no amount of education outside the plant will remove the need for the systematic training of the force within.

Some industries have extended the principles of employee representation beyond the individual plant. The voluntary joint councils which have thus been set up in the clothing industry, in the printing trades, and elsewhere are fruitful experiments in industrial organization.

The Conference has had the benefit of testimony from both employers and employees who have had experience of the results of employee representation. An enthusiasm has been shown which comes from a sincere feeling of substantial progress in the development of human relations.

CHAPTER XIV

THE WORKER AND THE JOB

Machine Specialization and Subdivision of Work

For a great many years in industry, we have been occupied in subdividing the work in accordance with the increasing specializing of the machinery. Where the machinery has not become highly specialized, we have developed subdivided systems that have specialized the work in the same manner. In the growth of the factory system to its present dimensions, the increasing subdivision of the work served to increase the central control and to increase the systems by which the subdivided machinery would be kept operating without confusion.

An examination of the bibliography of production and manufacturing indicates the almost complete development of the present subdivided system of operation from the necessities of machine specialization. No evidence exists of a careful examination of the best methods of developing human capacity and the relations this should bear to the subdivided operations of the machinery.

A great deal has been written about the lack of any orderly methods of fitting the man to the work, but very little has been said about fitting the work to the man. So little has been done in this respect that there is no background of discussion or experimentation upon which to erect the orderly possibilities of the human capacity in relation to the work to be done.

Medical writers have examined the question of fatigue, and sociological writers the matter of creative instincts,

but engineers, factory managers, efficiency men, and systematizers have gone upon the assumption that increasing the subdivisions into minute divisions of routine lessened the possibility of human error.

This subdivision with its rigid limitations in the work and its continuing repetition of the action demanded centralization systems of checking, inspection, and co-ordination. These centralization systems have not improved the individual accuracy, although the machinery developed has made it possible to secure a larger average of accuracy.

In the more studious circles of business, there is a tendency to rebel at these mechanical systems of subdivision and the limits they have imposed upon human development. Engineers and production men of note are talking about decentralizing, introducing more flexibility into the system, enlarging the specialized character of the machines, but altering the subdivision of the work.

These items of development mean the examination of a job with an entirely new idea of the proper relation between the worker and the tools of his work. Heretofore during the machine development, the tool assumed the importance. The growth of the system in its character and subdivision has been built around the development of the machinery.

Industry is beginning to sense the necessity for rearranging this organization, so that the system and the machinery will be grouped in accordance with the requirements of the man and in such a way as to encourage the development of his efficiency.

Effect of Mechanical System on Worker

The work which occupies the attention of the individual human being for the greater part of his waking hours

has a profound effect upon his whole mental outlook. The character of the work reacts upon his imagination in all its associations, and the skill he must use, its limitations, its necessities, and its burdens affect the whole horizon of his action. The subdivision of industry into innumerable groupings occupied with minute operations of the whole job has had its effect in the separation of the nation into the classes of craft solidarity. The cumbersome mechanical system with which this subdivision has been maintained in a more or less orderly manner has been no less important in its results. The attitude of the worker in relation to his job, the lack of pride as to the quality and character of his work, the lack of incentive for speed, the absence of any sense of responsibility, all indicate the effect of this mechanical system upon the worker.

Unless we can rebuild the desire to work, the system will only increase the difficulty and the attempted order will encourage disorder. It is necessary for us to consider the possibilities of development existing within the job itself. We shall be obliged to study the co-operation of development, rather than the co-operation of mechanical operations.

In one of the most efficient plants operating on standard products within the metal trades, the key blue-prints in the chief inspector's department were found to be over 15 per cent obsolete, and in the individual shops the percentage was much greater. The expressed tolerance for the work intended an accuracy which was not secured, because the mechanical instruments of precision measurement did not eliminate the human error. Rechecking saved some of the mistakes, but the cost of the rechecking in its extension was greater, in some cases, than the error it was intended to correct.

The frequency with which discussions of mechanical improvement have been headed "Successful elimination of

the human element," or words to that effect, indicates the extent to which we have expected the mechanical equipment of operation or system, to replace human judgment, skill, and development.

This dependence upon the mechanical part of the organization must be overcome if the present system of industry is to function with the increased efficiency necessary for future progress.

Labor Turnover and Other Industrial Waste

The costs to industry, resulting from the present difficulty in securing the right relation between the worker and his work, is shown in the constant interruptions, the labor turnover, the fluctuation of the individual efficiency, and the difficulty in securing new workers in some of the industrial fields. These costs are an important part of the wastes of industry and they assume large proportions of the total expenditure. Industrial engineers who have investigated, claim that only from 25 to 35 per cent of the ideal productive capacity of industry is expended in useful development of product. The rest of the time goes into interruptions, idleness of men and machinery, lack of materials, transportation difficulties, and other waste. This enormous proportion of waste is chargeable to the human error and the human inefficiency to a very large extent.

The system laid out does not function in the machine shop because the strike in the foundry delayed the material; the foundry cannot continue at the maximum because the miners, have been engaged in a dispute. The miners have become tired of their work and are not working more than three or four days a week. The railroad has broken down because of the impossibility of coordinating the aspirations of the worker, the demands of

the management, and the desires of the politicians. All through industry the attempt to arrive at the proper relation for this big co-operative job wastes a large part of the total effort.

Few of the industrial writers and engineers have paid much attention to the influence of the human difficulties upon the work. They have omitted a proper measurement of the causes of labor turnover, the reasons for delay in materials, the variations in the efficiency of the worker, and so forth. The most vital elements in the accumulated waste have been neglected, and it is not surprising that attempts at co-ordination should be so meager in result.

A large number of statistics have been developed upon labor turnover, charts have been made showing the tendencies under different economic conditions, and in a good many ways the mechanical symptoms of the case have been examined. Industrial writers have not gone back sufficiently far to illuminate these facts as to their place and causes. Many suggestive examinations have been made by other writers but they have not been expressed in industrial terms and have excited little attention in industrial circles.

Adapting the Human Element to System

This neglect has continued for so long that we are in danger of forgetting the unit of human reaction—the individual. Every production man, every engineer, every supervisor, knows that orderly arrangement of work begins with the unit of operation. The designing of machinery begins with the unit of movement and the improvement of each case must be an improvement in the unit.

The same thing applies to the human element in industry. The reaction is an individual one; the fact that it

averages in a certain visible common argument does not diminish the importance of the individual reaction. For a certain height and age it is possible to secure a normal average weight, but the individual weight and health does not depend upon that average and bears no exact relation to it. The work a man does is intimate in its effect upon his individuality and in the character of his individual reaction thereto.

In the study of this individual reaction the causes will be found and the elements of improvement can be expected only from this point of study. If the jobs are so badly arranged that they do not improve in interest as they develop with the individual worker, the jobs must be changed because human agreement is necessary for the continued functioning of the industrial organization.

Ways and means must be found to lessen the individual tendency to change. Developments must be made that will improve the attitude of the worker towards his work and systems must be measured from the human agreement coming out of them and not from the mechanical order of their operation.

The problems before industry are the human problems, increased human efficiency, co-ordination and agreement, elimination of turnover, attraction of sound workers, and items of this kind. These problems are causing the continual discussions and exercising the minds of important industrial leaders. In the examination of them there is still too much talk about the abstract and not enough about the concrete. The discussion is in terms of capital and labor where it should be in terms of Jones and Smith.

The individual is the unit of examination in the human side of the case, and the general knowledge will come out of the careful consideration of hundreds and thousands of individual reactions.

CHAPTER XV

INCENTIVE

Lack of Incentive "to Work"

A great deal has been said about the natural instinct for work, and the expression itself indicates rather a confusion of mind in dealing with human affairs. Practically all the discussions on this subject talk about the incentive to work, or the instinct for work, as though the matter were settled knowledge and there was no question about it. The actual happenings in industry indicate the lack of this incentive or its successful conquest by modern humanity.

There is some amusement in the paradox of the elderly gentlemen discoursing upon the natural instinct for work, when he is just approaching the time towards which his life-long ambition has moved, the time when he can lay down his tools and play for the rest of his life.

It is somewhat interesting to hear this statement about the *natural* incentive for work coupled with the statement that the efficiency decreases in times of labor scarcity because a man does not have to work so hard during such periods. The solemn preachment delivered to the worker, indicating that he should work more because he is getting higher wages, suggests that our sense of humor is not yet fully developed.

Is there an incentive to work? The demand obliging a man to work no matter what the character or the object of the work may be. The evidence is all against it.

Incentive for "Accomplishment"

There is in humanity a great incentive for accomplishment and evidence of this incentive runs all through history, showing its power at every step. The development of man has been almost entirely an escape from the drudgery of less valuable work to the delight of larger accomplishments. The very machinery of convenience we have created is intended to remove the heavier, more tedious operations and leave time for more interesting matters.

The arduous labor of the thousands of slaves who erected the pyramids has been replaced by the magnificent tools of industry which permit the rearing of a Woolworth Building.

The generations of Roman workers who completed the highways in Great Britain have given way to the mechanical appliances by which a few men can perform that service in a fraction of the time. Labor as such, the human race has always endeavored to escape, and yet no labor has been too great for the accomplishment of a worthy object.

There is no incentive to work discoverable to the student of human history. There is a powerful and continuing incentive to accomplishment, demanding a continual removal of the more tedious labor so that the possibilities of accomplishment may keep pace with the intellectual development.

This provides a new background for the study of the human reaction in industry and the effect of the mechanical development upon the individual who is engaged in the work of industry. Seen in this light, many things become clear which are otherwise confusing and difficult of explanation.

The restlessness of the individual worker, the lack

of desire to work, the continual escape from the shop, the demand for new economic conditions, arise out of this necessity for accomplishment and this desire to escape the monotony of unimportant operations.

Visible Object of Work

In the days when the idea of putting prisoners to work had not seeped through the penal system, in one of the western states the warden of a large prison conceived the idea that it was bad for man to be without any occupation. Unfortunately, the regulations did not permit prisoners to engage in any useful occupation and there were no facilities for the purpose. In one corner of the yard there was a large pile of stones left over from the building. The warden believed that any work was better than idleness, and in the absence of any other facilities he started a gang of prisoners moving the stones from one corner of the yard to the other, piling them up neatly and then moving them back again. This was work. Physical labor of a somewhat severe kind and according to the warden's philosophy, should have beneficial effect.

The actual result was not encouraging. In the course of a week, two men became insane, several others were sick, and the inside of the prison bordered on anarchy.

Some years ago, Frank Gilbreth tried an experiment to find out whether men would work on useless labor, because of pay. He adopted the same method. He sent a gang of men to take down a neatly arranged pile of brick and transfer them to the other end of the brick-yard. When this was done, he ordered the bricks to be taken back. The men refused, on the plea that they would not be made fools of by anybody.

These are extreme cases, and the fact they disclose is not important in itself. It is important when the industrial

work of today is measured by the reactions of the worker. The visible uselessness of this work was the reason for the disturbance created by it. It is necessary that some useful object of the work should be visible to the worker. The interest in the work is in proportion to the visibility of the object and the importance of that object.

Reward

There are a great many jobs in the subdivided industries of today where the usefulness of the work is hardly visible to the worker. For this reason the fear of starvation is a more important element in the amount and character of the work, than the incentive for development. Unfortunately, the economic fear does not operate except in times of stress, and if the stress is continued it results in a demand for the removal of the difficult conditions. Where there is no other incentive established except the incentive of reward, the continual demand is for a larger reward and escape from the undesirable work. The continual demand of the trade union for higher wages and shorter hours is an interesting commentary upon the reactions of the worker to the subdivided jobs of industry as they exist today. The tendency of workers to leave their work more frequently when they are securing higher wages, indicates the desire to escape from the pressure of the monotony or the disagreeable character of the work.

In prosperous times the manufacturer has found that the workers stay away more frequently, do less work, and demand more pay. Both manufacturer and groups of workers have placed the emphasis of their discussions upon the wages and the hours. Neither of these items offers any permanent solution to the problem. In the past they have been settled only to form the basis for new demands. The wage as an inducement to work is one of

the least satisfactory incentives, and one which cannot continue to exercise even its present power as the strength of the workers' organization grows.

The problem before industry today is the determination of the incentives that will induce the worker to exercise his full power, and the practical means for arranging the industrial organization to give free play to these incentives. The most important incentive is the incentive for accomplishment. This has been described as the creative instinct. It is the inherent desire to do something worthy. This incentive has led men into the most inaccessible places, induced them to suffer incredible hardships, and actuated them to concentrate physical and mental energy for years upon problems.

Interesting Work vs. Pay

The actuality of a worthy accomplishment is greater incentive than any other yet considered, and the creators of industry, the engineers, the chemists, the inventors, the practical producers, have received small rewards in comparison with the value of their accomplishments. Few of the most intellectual and creative pursuits have been rewarded in any proportion. The satisfaction has come from the constructive effort of accomplishment in worthy developments.

To the worker a job must be interesting or pay well. But the interest is far more important than the pay; interesting work will hold the worker even though the reward is comparatively small. Interesting work will induce the worker to put forward his intellectual and physical power so that the efficiency of his operation is greatly increased. Work which pays well but is not interesting will hold the worker as long as it is necessary for him to secure that pay. It will hold him as long as he finds

nothing else to do, it will not induce him to work any harder or longer than he has to, and the slightest sign of increased pay in some other direction will tempt him to leave. Industrial organizations must recognize the relative value of these incentives and arrange the work, so that they can be allowed full play in their proper order.

Five Factors Affecting Incentive

There are five factors entering into the complete incentive to work and to remain at that work. These factors are:

1. The visible object of the work.
2. The importance of the visible object.
3. The opportunity for individual expression or skill.
4. The character of the surroundings.
5. The reward.

Mass production in the United States in its short history has shown the replacement of the more intelligent worker by the less intelligent worker in occupation after occupation, as the work itself has become more closely subdivided, more repetitive in its character, and with a less important visible object.

English, Irish, and German workers have passed out of these fields of endeavor. They have been replaced by Italians, Russians, and other Eastern Europeans. The more intelligent of these in the second generation seek other work, and their place must be taken by new immigration of a similar kind.

The foundry men of the United States have complained for several years about the difficulty of securing young men for foundry work. The surroundings for foundry work are disagreeable and the work itself is frequently dirty. New foundries have been built with great care to

avoid the smoke, the dust, and the depressing atmosphere of the older foundries, because the workers cannot be kept under the old conditions.

The five factors noted above all have their effect in increasing or decreasing the human efficiency in accordance with their value to the worker himself. It is possible to secure a certain amount of efficiency out of the worker, if the reward is big enough and the necessity of the worker sufficiently great. The worker will put a certain amount of his power into the job, even where the surroundings are disagreeable and the usefulness of the object is not visible. The full potential power of the worker cannot be harnessed to his production unless all these factors enlarge the value of the work, because their advantage is visible to the worker himself.

Wherever the reward is the sole incentive for work or the principal reason for the worker's attention to his job, the turnover is large, the absences from work are many, and the tendency is to establish a minimum pace. Restlessness and dissatisfaction accompany these obvious production inefficiencies so that there is a tendency to increased interruptions and demands from the employee.

Inefficiency and Increased Reward

The mechanical subdivision of the work in most lines of human endeavor has been at the expense of human co-operation. In an earlier chapter it was pointed out that industry is the great educational factor for a large percentage of the population. The subdivision of the work has made it difficult for the individual operator to see the usefulness of the work or to exercise his individual skill and intellect upon it. For that reason the emphasis has been placed upon the reward and the worker has been trained continually to view the reward as the

principal object of the work. It is customary for this viewpoint to predominate in all classes of workers.

The long-continued emphasis upon the reward as the principal object of labor has made more impression upon the worker than all the educational material that may come to his attention outside of industry.

So long as the majority of the workers feel that the reward is the principal object, in the absence of any industrial education to the contrary, there will be a constant disagreement about the reward and a constant endeavor to increase the amount of that reward. Because the object of the work and the development of the skill have not entered into the calculations, there is no incentive to continue in the work or improve the skill itself.

The demand for increased reward is accompanied by the demand for less working hours in order to escape from the work, the usefulness of which is over when the reward has been secured. To state the matter colloquially, the only reason for the job is to get paid, and therefore it is not necessary to do any more work than is required to secure this pay.

This continued emphasis upon the reward is abnormal, and is not in accord with the deep-seated human necessities. The desire for worthy accomplishments must be satisfied in some measure. This can be satisfied only by a visible understanding of the object of the work and a realization of its worthiness.

No reward secured without the feeling of accomplishment will completely satisfy the individual, and the restless demand for a change in the economic surroundings, the conditions of work, and the other elements will continue unabated, so long as the reward is emphasized as the principal reason for work, and the object of the work is

too far away from the worker to be visible to him as an incentive.

In times of depression the efficiency will increase and the worker will be impelled to accept a small reward because of his fear of starvation. In times of prosperity the worker will demand a greater reward and free himself more frequently from the work, unless the other incentives can be made visible to him in connection with the work itself.

CHAPTER XVI

FATIGUE

Measuring Fatigue

The question of fatigue is one of the most important questions in all production work, and many thousands of observations have been made by competent observers from the ranks of the medical and the engineering professions. A number of books have been produced outlining this subject, while the governments of England, France, and the United States paid considerable attention to the matter of fatigue during the war.

The usual method of measuring fatigue is by taking the production curve for the working period, either by hours or by more frequent readings. Production curves so calculated show a characteristic rise from a low point at the beginning of the morning's work, to a maximum production in the middle of the working period, and a decrease again toward the end of the working period. The curve in the afternoon always starts near the maximum if not at the maximum, and the drop toward the end of this period is usually longer with a lower point at the finish.

In other words, when the worker begins in the morning, it takes a little time for maximum production to be reached on account of the necessity for securing concentration upon the work, for the arriving at the proper co-ordination of brain and hand, and the swinging of the whole energy into the required rhythm. As soon as this is secured the work rapidly reaches maximum and continues

approximately at that point until fatigue begins to set in, with the protective tendency toward the reduction of speed.

After the lunch period the concentration is secured almost immediately, and the rhythm so much more readily that the drop from maximum is very small so that the curve in the start of the afternoon period usually shows something approaching the maximum from the beginning. The rest at the noon hour has not provided, however, the complete recuperation secured overnight, and the drop from maximum is usually longer, starting at an early part of the working period and continuing to a lower point than in the morning.

It has been assumed by the medical writer and the industrial observers that the production curve told the whole story of fatigue, and the working hours from a health standpoint have been judged entirely in respect of the production curve. This assumption, however, leaves out of count some important factors without which the character of fatigue cannot be determined properly.

There is, of course, an individual variation in physical capacity, in mental strength, and in suitability to any particular work, which means that the individual production curves vary through the number of operators engaged upon any one operation. These variations can be calibrated so as to secure an average curve representing the condition to be accepted in the mass. These average curves again vary in relation to different operations, to different classes of work, and to different lengths of working periods. They also vary greatly as between men and women.

From an examination of such curves and a digest of a number of them made at different periods of the year and under different surrounding conditions, indications can be taken showing the suitability of the working period,

the value of the rest period, and the effect of the over-night recuperation. Unfortunately, however, there are no indications whereby the potential capacity of the worker can be determined or the relation of the actual output to that potential capacity be discovered. Hence, the efficiency of the means taken to overcome the indicated fatigue cannot be fully calculated.

Efficiency argues the knowledge of the theoretical possibilities of work, and therefore a determination of the percentage of actual performance in terms of this theoretical possibility.

The loose statements made as to the efficiency of workers upon certain operations are without any scientific basis, and until we have determined the effects of the psychological factors in connection with output, this efficiency will remain only a term and not a calculation of real value.

Relation between Hours of Work and Fatigue

The fatigue established by the working period bears a direct relation to the length of the period, and when it is accumulated to a certain degree, it has a tendency to carry over so that the efficiency is not as great at the start of the following day. This, of course, is particularly true in the highly repetitive, monotonous work which requires concentrated effort of mind and hand upon a few rapid operations, but is true of all classes of work, although the length of the required period varies.

The extension of a half-hour in the working period is sufficient to accelerate the production drop very rapidly in the extended period, and it is a question whether the production increase secured in the period of extension is sufficient to justify the operation being continued that length of time.

The idleness of machinery frequently costs a great deal more than the idleness of men, and it is better to close down the establishment rather than to run the machinery at a production not sufficient to pay the interest charges on the machinery operation.

This is not an absurd picture. Investigations have shown in past years similar conditions existing in industries where long hours have prevailed, without proper regard to the character of the work and the extent of the fatigue established during the working period.

Sufficient attention has not been paid to the investigation of production curves and the effect upon these of a small decrease or increase in the working period itself. Practically no investigation has been made as to the effect of a long working period, day in or day out, upon the attitude of the worker, his incentive, and the demand for the establishment of a minimum pace. The object, of course, of all operations in industry is to establish the minimum cost per piece in production, and this object is not always to be determined by a calculation of the rate, the hours of work, and the average work per hour. There is too much difference in the capacity of the man and the amount of work he is supposed to do.

Experiment in Reducing Working Hours

From the report of a general manager, the following quotation indicates the relation between hours of work and fatigue:

In a plant employing approximately three thousand men, working hours were reduced from ten to nine, piece-work prices remaining the same per piece, under the new schedule as obtained before, and hourly rates increased the necessary percentage so that a man's labor for nine hours paid him the same as had been paid for ten previously. The actual net result of this move was slightly to decrease actual cost of production per unit.

In the other plant, employing approximately six hundred men, time was reduced from ten and one-half to nine and one-half hours per day. There was practically no piece-work in existence. Hourly rates were increased so that a man's earning capacity in nine and one-half hours at least equaled, and in some instances, so as to avoid splitting a cent for an hour, a man's earnings were better in nine and one-half than had previously been obtained in ten and one-half. And in comparing the costs per unit of production between 1916 and 1919, during which time the original hourly average rate had been increased about 75 per cent, the actual cost of production per unit in 1919 was about one-half of one per cent less than in 1916.

The move, of course, was not made with the primary idea of reducing costs below the prewar costs, but the move was made, however, on account of knowledge gained in the former experiment with three thousand men and it worked out to extremely good advantage with the crew of 600.

Apropos of the long hours, fatigue, and so forth, I have had during the past eight or ten years a good many conversations with rather high-class employees, although they were plain workmen, not officials in any capacity, of some of the big, high-speed, intensively advertised manufacturing plants and it seemed safe to conclude from these conversations that absolutely the only reason why men stayed with them was because of the money that there was in it. They confessed, though, that at the speed at which they were driven and at the hours that they were forced to put in, they dreaded daily, going to the place, as virtually they were more tired on arrival at the shop in the morning than they were after they got into action. Furthermore, these particular men seemed to find it necessary to take time off semi-occasionally to recuperate.

These instances are not unusual in their indication that the number of hours worked does not have a very close relation to the production rate, and that the operation of a ten-hour day may not be economical, even though the pay is based upon a day's labor and not upon an hourly payment.

There are many other instances where the reduction

in the working period has led to an increase in the efficiency, so that the earnings of the worker could be maintained or even enlarged while the labor cost per unit decreased.

This question of hours is necessarily bound up with the question of fatigue, and the last paragraph of the quotation is interesting because it affords the reason for the effect secured in the instances indicated in the earlier paragraphs. High-speed, concentrated work on repetitive operations is fatiguing in the extreme and the effect of the repetition of similar motions on the nerves and muscles has been known for a considerable time to the medical profession. Not so much is known of the mental fatigue resulting from this type of work and the effect which that mental fatigue has upon the actual physical condition.

Relaxation Overcoming Fatigue

It is not economically sound to arrange the working periods so that there is an accumulated fatigue that cannot be overcome in the periods of relaxation. Not only is this the case, but the effect of the fatigue from concentrated work is to demand a type of relaxation that is not really a relaxation at all, but simply changes the character of the mental pressure.

The strained concentrated character of the repetitive work in the needle trades, directly demands the activity of the dance, the emotion of the melodrama, and the mental stimulation of sentimental excitement as a relief from the narrow concentration of its efforts. In a much more definite form it demands the relief that induces the school-boy (on his release from the classroom) to indulge in fight, noise, and all the physical activity he can secure. In the older persons the demand is more sophis-

ticated and relieves itself through the channels I have mentioned. -

At the first glance this sounds as though it had very little to do with the working efficiency, but the accumulated fatigue results in the establishment of a minimum pace that is only increased under pressure of economic fear. It results also in a degeneration, definitely observed by medical students in Great Britain before the war, and which lead to a complete revision of the army tests in that country.

The General Fallacy of Fewer Hours, Less Production

Unfortunately, the knowledge we have gathered medically has not been applied industrially, so that we could determine the most economic period for the working hour under various conditions of operation. We are still misled into thinking that because a man works ten hours, he does more than he could in nine hours.

We are still under the impression that the hour's work is subject to a definite limitation, and that we lose the production effect because the working period is shortened. This persists, despite the fact that many careful observations have been made, indicating the production curve average under different conditions and drawing some conclusions from these examinations as to the relation between production, fatigue, and work. These observations, however, did not go far enough, as they do not take into account the part played by the mental fatigue arising out of the destruction of the incentive and the elimination of interest in the work. These factors affect the production capacity to a great degree and they influence the accumulation of fatigue to an extent that has not been admitted.

This question has no relation to the demand of the labor union for shorter hours, and it is not affected in the

least by the circumstances of that demand. It is a matter of arriving at the working period that will give a maximum production and therefore the minimum cost per unit produced.

It calls for a consideration of labor cost in its definite relation to the production effect, and it requires a careful study of the work, the concentration and repetition demanded by the work, the reaction upon the man, and the fatigue induced by the continuance of that reaction over a definite period. It is an intensely practical way in which to study the human relations in the plant with the possibility of a great practical benefit on both sides.

Work Period Varying with Nature of Work

The present excursions into fatigue have not fully established the effects of repetition and concentration upon the accumulation of the fatigue, and therefore upon the length of the work periods. These examinations have not been studied sufficiently in industry to determine the relation between the fatigue and the work period for individual groups. In some industries, therefore, while the working period is short enough to permit a general recuperation from the physical fatigue, one or two of the groups included in the industry are working longer periods than economically advisable, since the particular work on which these groups are engaged brings accumulated fatigue more rapidly than the bulk of the work upon which the establishment is engaged.

In some cases where the regulation hours per shift are nine, this period will be satisfactory for 80 per cent of the work. In 20 per cent of the cases, the work upon which employees are engaged produces fatigue at a pace sufficiently rapid to justify the reduction of the hours in these particular cases to seven instead of nine. In groups of

this kind it becomes very difficult to get young workers into the business, and men are unable to continue the pace when they have reached middle age because of the severe requirements. In such cases the longer hours are not economically sound, even though the establishment may run on the longer schedule for most of the work.

The study of fatigue has been averaged in a way too general for the exact purpose. It should be segregated into smaller groups so that the differences in the individual occupations can be determined more accurately and the hours regulated in accordance with the character of the fatigue imposed.

Effect of Monotony on Fatigue

The most important development in this question is the study of the mental factors entering into fatigue, the effect of monotony upon the incentive together with the effect of concentration upon the muscles and nerves themselves.

Monotony, by its removal of the interest, increases the nerve fatigue very rapidly and in turn increases the muscular fatigue because of the action upon the nerves. In most lines of work the amount of muscular energy required is of little importance, because it is well within the capacity of the average individual and no undue strain is put upon the body in the course of the work.

The continuous rhythmic requirement of the muscular action, concentrating the work upon a few muscles, produces a fatigue in character and industrial importance far more costly in its effects. The absence of useful object in the work, and therefore the lack of interest in the result, increases the monotony of repetitive work so that the nerve strain is amplified and the accumulated fatigue largely increased.

Effect of Interest on Fatigue

The effect of the increase or diminution of interest in the object of the work itself, upon the character and extent of the fatigue, should be the subject of careful examination.

Neither the medical man nor the industrial observer has attempted to determine the effect of interest upon the actual fatigue. Although every individual who has analyzed his own reactions at all intelligently is aware that when the interest is in harmony with the work and its object, not only can the output be increased but the fatigue will be lessened and recuperation through the rest period will be greater. These facts have been left entirely out of the calculation of the medical man and the industrial observer in dealing with this subject of fatigue. It is not merely that an objective in connection with the work or an interest in its accomplishment turns more of the potential power into actual performance, but that it reduces the friction in the man himself, and the wear and tear on the man, so that the actual physical fatigue is lessened and the recuperation more thoroughly valuable.

In many observations under very different conditions of work, some years ago, I found it possible to trace the effect of the incentive upon the physical condition, by transferring the same worker from light highly repetitive work to much heavier variable work, where the interest was greater. I discovered through curve after curve calculated in the same way, that the fatigue was lessened because of the increase of interest, even though the actual physical requirements of the work were harder.

Results of an Investigation

This subject of the relation of worker's interest to fatigue, in fact, presented so many interesting factors of

investigation that all the later observations were made with a view to arriving at some conclusion concerning it. These observations established a few points of importance in connection with the present industrial organization, the demand for shorter working hours, and some of the other troubles that are being experienced at present.

The first point established was that highly repetitive work requiring only slight muscular effort and slight mental effort, resulted in an accumulated fatigue so definite that only a few days were necessary for a new operator to establish a minimum rate of production. It was further determined that where bonuses or other systems of remuneration were established to increase the rate of production on such work, the result in six months was to re-establish the minimum rate or to increase with considerable percentage the number of absences and the accidents from lack of judgment.

Another point secured in connection with this work was the fact that fatigue is not proportional to the muscular effort required, but is affected much more definitely by the rapidity and regularity. This has been considered, of course, by the medical men in their experiments upon muscles and nerves for fatigue under repeated activity, but the extra fatigue created by the discontent with the work and the desire to escape from it, have not entered into these calculations.

The third point coming out of the observations was the fact that turnover is directly associated with the lack of incentive in the work from its monotony of repetition or its disagreeable character, and that this turnover was due largely to the psychological fatigue. If the industrial and medical observers had made their observations without assuming that the medical effects upon the muscles

and nerves were the only ones to be considered, the experiments that have been conducted in the past would have brought results more commensurable with the care spent upon the calculations.

Complex Problems Involved

Some of the most important indications as to the reason for turnover, for enforced absences, for minimum rates of production, and for discontent, have been missed entirely because of the assumption that fatigue was purely a mechanical action upon the nervous system and the muscular system.

For the purpose of state and national legislation, which concerns itself with protection of public health, the mechanical effects shown on the production curve are sufficient in themselves, and there is no necessity to search for indications of the psychological features; for the industrial manager, however, who is concerned with understanding every difficulty that limits his production per worker, per hour, such conclusions are only the beginning of the investigation instead of the end of the calculation.

One of my well-informed friends the other day remarked that the superstitions of the laboratory are as bad as the superstitions of the jungle, and the keener the examination of scientific analysis, the more difficult it is to understand how indications should have been missed merely because the investigators assume that the *prima facie* factors were the only ones.

The works written upon fatigue and efficiency in terms of fatigue are useful in indicating some of the primary factors that affect the productiveness of the worker. They would be of much greater value, however, to industry if they were read for what they do not indicate and for

what they might indicate, as much as for the things which they explain.

At no point in this examination of the worker in relation to his work can the psychological factors be neglected without so limiting the result as to make it almost worthless.

CHAPTER XVII

FITTING THE JOB TO THE MAN

"Fitting the Man to the Job"

The discussions in previous chapters indicated the extent to which the subdivided work in industry has robbed the work of much of its interest. The monotony of the operations has been increased, the repetitive character of the work has diminished its value. In the days of hand-work the job was big enough to cover all the incentives for the worker. It was sufficient for the shoemaker to stick to his last, because the job of making shoes was a worth-while job for any man from the standpoint of interest, visible usefulness, and accomplishment involved in the work itself.

The mechanical equipment of industry grew by subdividing the operations and repeating those operations on a standard basis. Every new invention and every new improvement in machinery created a further subdivision in these operations and standardized the repetitive character of the work more definitely. With each process in this development we still held to the idea that one man should do one job. The jobs were subdivided as the machinery grew, so that the jobs themselves covered a small fraction of the total production and a more standardized operation.

All through this development we fitted the man to the job, deciding the character of the job by the mechanical equipment and fitting the man to the mechanical equipment so that his industrial development and outlook were

controlled by the machinery. The whole bibliography of industry at this period is concerned with the mechanism. No attempt had been made to consider industry from the viewpoint of the human necessities. Organization was visioned as a matter of machinery, building, transportation, and system. The personnel was considered entirely in its relation to these mechanisms as though the human element was subordinate to the mechanics and the human being could be satisfied in that relation.

Control of Mechanical vs. Human Development

Such a system of industrial development might be possible as permanent organization, if the development of the human being was limited and human aspirations could be controlled in the way the mechanical organization is controlled. Human aspirations and desires continue to exercise their influence upon all phases of human activity; incentives must be satisfied no less than in other departments of life and these incentives arise from fundamental necessities of progress.

The emphasis on mechanical organization running through all the consideration of industry during this growth, has altered the character of the work so that it is more mechanical in its own elements and more limited in the mental requirements.

Work so elementary in the demand on mental and physical skill as to require only a few days of training, cannot satisfy the aspiration for years and cannot continue to offer values of interest to the worker. Because of the mechanical character and monotony of the work, the more intelligent workers have gradually entered other occupations and given way to the less intelligent workers in the more repetitive jobs.

This system of industrial subdivision of labor is not

built upon any scientific consideration of the human necessities. There is no evidence in the bibliography of production that these human necessities have been considered at all. Even in recent times the consideration of the human element in business has been confined largely to those systems of conferences, safety, health, and other matters which take care of the physical surroundings and the health of the worker and offer some possible measures of a common understanding.

Little or nothing has been done in the analysis of the job itself and the reactions upon the human being from the character of that job. We had been content to hold out to every worker the possibility of escape from monotony, by promotion to a higher job, instead of analyzing the present work and endeavoring to provide it with some interest.

One-Man-One-Job

Not only is this the case, but it has been generally assumed by industrial managers and writers that the only possible organization is the one in which the work is subdivided according to the necessities of the machinery.

The argument has been: It is easier to train a man for one job than for many jobs. There is a lot of time lost where a man must be transferred from one job to the other.

The whole system of industry is built upon this consideration. The beautiful character of this argument will be seen at once. It is absolutely complete, just as complete as a circle and just as effective in getting anywhere. It can be transposed; you can begin at either end and arrive at the same place.

If you start off by saying that the system of industry is built upon the use of one man on one specialized piece

of work and ask why, then you are told that it is because it is easier to train a man on one job and there is no lost time in moving from job to job. You start at the other end and say that you wonder why it is easier to train one man on one job, the explanation is that the system of industry is built that way.

It is somewhat astonishing that the discussions of the technical societies and economists should have yielded so small a measure of consideration of the human side, when it is the human capacity, after all, that governs the productive capacity of the equipment. The argument advanced is so complete a criticism of the whole thought of scientific management that no further explanation will be needed in order to cause the thinking man to discard the whole subject and start afresh.

Reorganization Based on Related Cycles of Work

The present organization of work is determined by subdividing the work so that the operator is concerned with only one operation. In investigating the possibilities of orderly rearrangement in industrial plants the prospect is opened up to reconsider this matter on the basis of related cycles of work instead of subdivided work.

In almost all manufacturing operations there are certain cycles of work which relate to the same unit of work, so that each operation enlarges the value of the previous operation and explains its necessity. These cycles are not always visible without a considerable study of the business itself and in some cases the rearrangement would not be possible without considerable change in the physical equipment.

There are a large number of cases, however, where the related cycle of work is very definite and sufficiently small to offer a basis for experimentation. In this method the

operator would follow the material instead of passing it on, completing the cycles of operations upon it.

At first glance this method looks very confusing and there is no doubt that it would be much more difficult in the earlier stages of experimentation. However, it can be made just as orderly in its routine and just as definite in its valuation. It would offer to the worker a visible indication of the value of each operation, a visible example of the required skill and accuracy of each operation, and a visible incentive for co-ordinated production.

In addition to these incentives it would offer a variation in the physical and mental concentration which would lessen the monotony, increase the interest, and develop the mental alertness. In itself this method of organization by cycles of work would not solve the problem. In combination with the education of the worker, the orderly development of organization for unity of understanding, and the proper rearrangement of rewards, it offers possibilities not contained in the present system of organization. It offers also opportunities to relieve some of the fundamental deficiencies inherent in the present system, without losing the advantage secured by the multiplication of the mechanical equipment itself.

An Experiment in Change of Work

Individual practice is always ahead of the general thought upon any subject, so far ahead that it is likely to be discounted or laughed at for a considerable time after it has been started, before the general comprehension begins to measure up to these individual cases.

In this question of one-man-one-job, a friend of mine who settled down to own a manufacturing business after having spent his younger days in roaming the world as a newspaper reporter, miner, explorer, and an adventurer

in a general way, has solved the question as far as his individual business is concerned, without any deep study into the general phases of the question and without any intimate knowledge of what the economist or the efficiency engineer thought, but with a considerable measure of human understanding and a very keen knowledge of the men with whom he is working.

He is engaged in the business of making and grinding chemicals for use in the process of several industries. One of the most important parts of his work is the pulverizing of the material. The pressure on the pulverizing mills is varied by the operator in accordance with the sound, and unless this is done carefully the results are disastrous to the material and to the mill.

On one set of pulverizing mills they have had for three years a man whose sensitiveness for sound made him particularly valuable. The material turned out under his care was more uniform and of more direct value to the industry he served than they have been able to obtain from any other worker, and for three years no trouble of any kind had been experienced with this job.

One day the owner of this business received from his superintendent a letter saying that the pulverizing mills had been out of business for a couple of days, due to a mistake in the handling, and deliveries would be delayed. The rest of the story perhaps had better be put as nearly as possible in the owner's words to me, so as to convey his process of mind in arriving at the conclusion. He said:

"I knew very well the kind of man that Tom was, and I knew also the kind of a job it was. I had a notion that sitting, listening to that sound all day would be very irritating to him and make it very difficult for him to come through with the right kind of work all the time, so I went out into the mill and had a talk with Tom. After

we got to the point in the conversation where I thought he had gathered my understanding of the case, I turned to him and said:

"‘Tom, why did you smash that mill,’ and Tom looked at me as though he was trying to find out what would happen to him if he told me the story, then he said in a shame-faced way:

“‘I don’t know what was the matter with me that day but I just couldn’t stand it. I wanted that damn noise to stop.’”

The owner told me that he made up his mind on the spot what to do, and he said to this worker:

“Now listen, Tom, I don’t blame you much; I guess I would have gone crazy listening to that sound all day myself, but you are going to take Bill from the packing room and train him to do it just as well as you can, and you and he will divide that job and his job in the packing room half-day apiece, so that whenever you are bothered with the noise you will be able to feel that you can quit it at the end of the half-day and get a quiet job.”

From this beginning, this manufacturer finally carried the rotation of work, at least the change of work rather than rotation, all through his plant, so that today even the drivers of trucks take other work in combination with that and are relieved of this driving and steering a portion of the time. I asked him what the results were. He said that the men had been far happier and far better at their work since they had had that relief.

An Experiment Where Worker Completes Job

An electrical manufacturing company in Philadelphia has succeeded in changing the whole character of manufacturing operation in connection with the manufacture of connectors. Under the original system the manu-

facture of these connectors was accomplished by ten different operators handling ten different types of machine operation. The production is very rapid and the work highly repetitive, so that the mental and physical activity required for the individual operation is confined within very narrow limits. Today in this electrical concern, every operator making connectors does every operation connected with that manufacture in the order in which they are required for the assembly, and after they have done these operations they assemble and test the same connectors. For instance, an operator will start on a batch of connectors and follow them through each individual operation, assemble them and test them.

By these means, several things are accomplished in the development of the worker and several production disadvantages are eliminated, as follows:

1. There is provided a constant understanding of the object of each operation, because the result of each operation affects the assembly and determines the test. The reason for accuracy and quality of workmanship in each particular operation is indicated, and the value of care is established by the necessity of assembling the pieces from each operation and the necessity for testing these assemblies.

2. The change of motion and position required for each operation provides the mental and physical variation necessary to a balanced development and the elimination of continued fatigue. Monotony is established, not because of the simplicity of an operation, but because of the continued repetition of this operation without apparent end and without change.

3. It develops an incentive in connection with the work, because of the larger importance of the result of the work. No human being can retain an incentive to

continue at work where the object remains insignificant or cannot be seen by the operator.

4. The incentive to produce is maintained in this case because of the importance of the object and the physical value of the product, and as a corollary to this the quality of the work and the rapidity of the work are both increased. In addition to these benefits, the result upon the cost sheet has been to reduce the cost per operation, to reduce the rejected percentage, to reduce the inspection necessary, and to increase the production per operative per hour.

Tradition Accepted as Principle

Of course isolated instances of this kind do not indicate the general value, but it is encouraging to see any business man who is bold enough to experiment, and keen enough to understand that the feelings he has about a piece of work are subconsciously or consciously the same feelings the worker has about that work—who has the ability to see that a contented, interested worker is capable of more satisfactory work in character and volume than one whose incentive has been lost by the irritation of the routine.

Our biggest trouble in industry at present is the fact that we have accepted as principles so many things that are nothing more than tradition and have no sound scientific basis for their existence. The investigation I have made into the history of industrial development indicates that my friend, the authority on scientific management, was quite correct when he said that it was easier to train a man on one job than on several jobs, and that is the only explanation of the one-man-one-job system. It was not a question of the efficiency of the man, but of the character of the supervisor and the difficulty of making

an organization scientifically based upon the human necessities.

This, however, is no reason why it should be continued. There is a lot of knowledge of human necessities in the experience of every man who has come through the factory to the point of being manager or head of the managing department. The trouble is that he has either forgotten how he felt when he was working on the bench or at the machine, or he has not the courage to experiment with it or he thinks that it is part of the training the men must undergo in order to escape from it.

In a very few cases is the matter dealt with, in the understanding that at least 75 per cent of the workers must remain on repetitive work all their lives and cannot escape by building themselves into supervisors. The workman is intelligent enough to know this. He has no belief in the fact that an army can be run with 200 generals and one private, but that the proportion is very much the other way, and he knows that for one foreman there will always be from 10 to 100 workers, and for one manager there will always be from 100 to 10,000 workers.

We will only begin to understand the necessities of efficient production when we grasp the fact that for most of the men, the work upon which they start in industry will be very similar to the work on which they end. We must arrange or organize, so that the organization condition will provide the relief from that monotony and not leave it to the man's ambition to push himself through the crowd sufficiently to remove himself from its requirements.

A Common-Sense View

It is true that it is easier to train a man at one job, but the very fact that it is easier to train him at that job

indicates the probability that the interest he has in the job will not be retained very long.

It is true that it costs a little time to move a man from one job to the other, but the time that this movement may cost, may not be nearly so important as the time lost by the lack of incentive in the work already so monotonous as to lose any possible mental interest.

It is true that the system of industry is built upon the one-man-one-job idea, but labor is getting scarcer, men are thoroughly dissatisfied with the present system, and their continuous demand for escape from the monotony in the way of shorter hours indicates that the present system is not worth a great deal so far as man-satisfaction is concerned.

The traditional fact that the system is built that way should not have a deterring effect upon the investigation or analysis and upon a reasonable amount of experimentation aimed to find out the deficiencies of the present system and aimed at discouraging those deficiencies by the introduction of such changes as are required by the human necessities.

We know a great deal more, because of the work of the doctors and psychologists, about human necessities today than we did 100 years ago when this system was first started. It is about time that we used some of that knowledge in considering the system from an industrial standpoint. New ways of procuring efficiency must be found, because the present ways are not giving us any increased efficiency per man and the present demands of labor are not likely to give us that. These new ways will involve a great many changes, and one of the important matters for investigation is the effect of change of work as an incentive of interest and an incentive for concentration on the part of the worker.

CHAPTER XVIII

THE WAGE SYSTEM

Confusion as to Basis of Wages

The discussions constantly occurring about wage rates and the methods to be adopted in adjusting wages to varying economic conditions, illustrate the existing confusion as to the basis of wages and the lack of definition. It is manifestly impossible to secure any reasonable understanding where the parties to the discussion have not agreed upon the definition.

The discussions occurring in and out of industry indicate the impossibility of getting any general agreement upon this subject because of this lack of any fundamental definitions and any examination based upon common understanding.

The whole subject of wages is involved and confused in the same way. This confusion extends itself to the methods of accounting for the costs, the methods of analyzing cost, and the arrangements made for determining the efficiency of the worker. The question of a fair wage for a fair day's work is raised time after time by the representatives of workers and by the managers of industry, but the ideas of what constitutes a fair day's pay and a fair day's work are almost as diverse as the number of managers and the number of individual workers represented in the discussions.

The present wage systems have all grown out of the past conditions of industry and the development of supply and demand as the industrial necessities have fluctuated.

None of them are based upon any definition of service or the value of service, nor are they based upon the cost of living or any standard method of computing that cost. It is useless, therefore, to consider wage systems from those standards without laying down a series of definitions and suggesting the changes that should be brought about in order to put these into some practical effect.

History of Wage Basis

The history of industry in the growth of the factory system, shows definitely:

1. Wages have been based upon the smallest amount of money necessary for the employer to pay the worker.
2. Wages have been raised first and most consistently in those occupations represented by strongly organized unions.
3. Wages have not been influenced particularly by the length of time involved in the preparation for work or the amount of physical or mental skill demanded by the work.
4. When labor has been plentiful the price has receded in any occupation, and when it has been scarce, the price has advanced. No attempt has been made to measure the reward from the standpoint of the service itself, from the skill required in that service, or from the character of the work.
5. The attempts to consider this question in relation to the cost of living have been futile because there has been no standard basis of measuring this cost and the methods adopted to measure it have not been agreeable to the worker.

Labor Unions' Influence on Wage System

The most important element in these influences upon the wage system is the effect of the union or organization of workers upon their economic positions. All through industry the trades which are strongly organized have succeeded in securing more wages than other trades and they have been able to present their demands successfully time after time.

The young man who devotes a large part of his time for three or four years to securing an education as an accountant, has little hope of receiving as much pay as the skilled mechanic who belongs to a strongly organized union and requires a few weeks' training in order to become a journeyman. Office workers, draftsmen, engineers, and others in occupations which are not strongly organized, have not improved their position in proportion to the wage-earner who belongs to a union and who is able to bring his demands forcibly to attention. In the eyes of the worker, this is the greatest justification for the union and is one of the big causes for his allegiance to union operations and principles.

In Great Britain the strength of organized labor was sufficient to require the expenditure of large sums of money for unemployment, to oblige the government to subsidize various industries in order to meet the required wage and to affect the whole policy of wages in many industries in that country.

In this country the railroad brotherhoods secured extra privileges from Congress, typographical and other unions have been able to press their demands in times of labor surplus, and other organizations have shown their ability to secure increased rewards because of their power to force the manufacturer into giving attention to this subject. Although the whole future life of the nation depends

upon the character of the education for the young, teachers and preachers are paid considerably less than the day laborer as a rule, and while we are constantly demanding better education we are not willing to pay for it unless these professions organize so that they can force us into that position.

Of course, wage systems based upon such considerations are entirely unsatisfactory and do not produce any good feeling on the part of any considerable body of workers. Those who are organized are aware of the fact that they have secured their increased reward only because of their power, and those who are not organized are fully aware of the injustices involved in this method of determination.

Bearing of Cost of Labor on Rising Costs

The constant discussions on the wage question are confusing in other ways. Managers of industry are referring constantly to the cost of labor as though this cost represented practically the only important cost the manufacturer has to face. It is rarely that wages in any particular industry, outside of the administration wages, represent more than 50 per cent of the total costs, and in many cases the percentage is less than 25 per cent.

Practically the whole burden of rising costs is laid upon the demands of workers for increased reward, and the same way in the case of a falling market. The abrupt rise which occurred in the latter part of 1919 and the early part of 1920 was charged almost entirely to labor in the public discussions and the possibility of reduced prices was discussed from this standpoint to the exclusion of almost all the others in the latter part of 1920.

J. F. Kennedy discussed the matter of wages in a

falling market in the *Iron Age* in the fall of 1920 and this discussion indicates the existing confusion of mind concerning the wage question.

There are those who are heard to say that the workman was blind who could not see ahead what was coming, and lay up a savings account to tide over such periods. They assume to give the workman more intelligence than many a corporation which invested its high profits of the past few years in factory extensions and new machinery to pyramid these profits, and which now finds itself possessed of an enormous plant and corresponding overhead charges, but with no working capital with which to finance it. A certain man whom many of us know by hearsay, but fewer by actual acquaintance, one Adam Smith, pointed out 150 years ago a fundamental truth that is overlooked in such discussions; that a workman by the very nature of things is a man without the means to support himself over any lengthy period. When the more intelligent or more diligent workman has succeeded after some years of toil in laying up a sum of money he sets up in a small business of his own with his accumulated wealth, and behold! He is no longer a workman, but an employer, even though he may employ at first only one or two men.

Profits Not Reduced

But in figuring whether or when wages should be decreased, several items require consideration.

The head of a large automobile company said recently that he had taken some pains to find out the results of the requests of his purchasing department to its sources of supply for reduced prices to compensate for the reduction in the price of his car forced on him by the refusal of the public to buy at the old figures. He said that one of two answers was invariably given. Either the reduction was granted, or the plea was made that materials remained as high as ever, wages remained the same, and consequently no concession could possibly be made. Never was a word said about a reduction of profits! This alternative never seemed to have entered their minds. This man said that they themselves had taken a large cut out of the profit part of the selling price of the car when reduced prices were decided on.

Two women in a mid-western city this fall had occasion to

have their fur coats repaired and remodeled. The coats were nearly identical, and the work required was about the same. One took hers to the leading fur store of the city and left it there. The other hunted up a smaller shop on one of the less important streets some little distance out. Her coat was done first, and it so happened that they both went together when the coat was ready. While in this shop the first woman saw a coat hanging up which looked so much like her own that she examined it closely, and to her surprise found that it was her own that had been sent to this place to have the actual work done. Comparing prices, she found that she was paying the large store, which was filling the newspapers full of advertisements of furs and work at enormous reductions, a clear profit of \$400 for handling the transaction!

A large department store in this same city last week experienced the poorest day's business in the history of the institution. The manager was severely taking to task the saleswomen for not selling more goods. He said that prices had been reduced on everything, and that the girls should make more sales. The head saleswoman of one department replied, "The people will not buy, and we cannot make them. After the exorbitant profits you have been making in this department for the past three years you should be content to operate at cost or a little less for a time."

Cut in Wages Commensurate with Decreased Living Cost

In deciding where reduced cost of operation should begin, profits ought to be the first item scanned. In considering the item of wages, it should be kept in mind that the chief components of the cost of existence of the ordinary person are still nearly at the top. Retail prices of the daily necessities have not yet been forced much below their highest levels. Taking advantage of the country-wide shortage of houses, rents have been criminally increased. Jumps of \$10 and \$20 and \$40 a month have been made time and time again—with no alternative but to pay. Rents have not been reduced. The householder who listened to the advice of his chamber of commerce and others to whom he would naturally listen for counsel filled his cellar with coal for the winter, and now finds that he paid peak prices. This important part of his budget is settled for him for this year. Retail prices

of food have dropped less than 3 per cent. Much noise is being made in the public prints of reductions of a cent or two in bread, but this means but ten or fifteen cents a week to the average family. Clothing has dropped greatly, but in times like these workmen out of a job or working part time are not buying new clothes.

In brief, the cost of existence of the laboring man is still at its highest point to all practical purposes. When retail living costs, of which the major items are rent, food, heat, light and clothing, come down, then it will be in order to reduce wages accordingly. When such action does become necessary, go to the workman frankly and honestly, and he will receive you in the spirit.

Lack of Fundamentals of Valuing Labor

A good many books have been written upon the wage system and various outgrowths of these general systems. There is a great deal of current discussion upon such matters, but very little analysis has been made of the factors out of which the present wage systems have grown, and the lack of any fundamental elements of valuation in the general backgrounds of the present system.

The object of all wage systems, of course, is to secure the fabrication of a unit with the expenditure of a minimum amount of labor cost. The value of the labor is a resultant of the relation between the quality and the quantity of the output and the amount involved in the wages for the fabrication of this output.

None of the present wage systems, however, are based entirely upon this relation and many of them have no direct connection with it at all. The general basis since the introduction of the factory system has been the amount which the supply of labor and the conditions of the industry made it necessary for the manufacturer to pay. This amount has been paid either on a general time scale, on a piece-work scale, or on a combination of the two, and

it has varied largely as the workers demanded it, and as they possessed enough power to enforce their demands.

In the days before the factory system was introduced the hand-worker—being the sole producer of the job and owning his own tools—secured a return in proportion to the value and individuality of his own production; so that his own pay was strictly related to the value of the product which he made, and in this relation there was a better basis than that existing under the factory system.

This does not mean that the man's condition in those circumstances was better, but it means that there was a more stable basis of valuation because the work was more individual and the exact relation of the worker to the product was determined almost automatically.

Agreement of Wages with Cycle of Costs

When machinery was first introduced into the factories and the production standardized and subdivided to some extent, the variation in the individual skill was much less important than it had been under hand-work methods; so that wages tended to level themselves and workers were secured largely on the prices that had to be paid and not selected nearly so much upon individual skill.

The supply and demand as a basis of valuation has continued up to the present time, and for that reason it has been difficult to make any agreement between the wage-earner's condition in the individual case, the cost of living which might be regarded as reasonable, and the unit of work he turns out.

If it were possible to analyze the operations entering into the production of a given article and to arrange the pay of each worker according to the number and quality of the units produced—including the supervision of this production and all the other departments entering into its

cost—then the worker's wage would relate to the cost of living at all times; because the same relation observed between the labor and the unit of production would exist all down the line until the goods were bought for his consumption by the same worker.

The socialist would say that I had mentioned the object of his theory, but the socialist attempts to arrive at this point by fixing conditions and securing a uniformity where the problem requires the examination of related factors and the valuation of variables.

Arbitrary Bases of Wage Rates

All time payments are arbitrary and are fixed upon an arbitrary scale justified by the immediate conditions of the business, or the relative power of the employer and the employee. They cannot at any time represent more than an average cost per unit of production, and as a natural consequence they must lead to a general level of production from the individual workers employed on that job.

Where the payment is on a time basis and bears no exact relation to the individual capacity to production, it is to be expected that the labor organizations would have a tendency to lean toward limited production, because the workers themselves would hesitate to use their full capacity if it expressed considerable departure from the average ability.

Where the wage systems are based upon piece-work, the relation between the individual capacity to produce and the wage given to the producer, is more direct and justified to a larger extent. It is not exact, because the base rate is arbitrary, determined by the immediate conditions, so that the fluctuations are only within certain limits. It is much better, however, as a system of payment where it can be adopted, and where the value of the

individual operations, relatively to each other, can be determined with a reasonable degree of justice.

The object of industry is production—more production per man. And unless the wage system rewards the man in proportion to his production, it may not further the object of industry to any degree, and increasing conveniences may lead to a reduction in individual efficiency.

Wages Based on Cost of Living

Basing the wage cost upon cost of living is just as an arbitrary matter. In fact, it is a great deal less satisfactory than the attempt to base wages upon the supply and demand, because the cost of living is dependent upon the kind of life and the individual circumstances of life. It is dependent upon the amount of production. The relation existing between the conveniences and comfort a worker may possess—in other words, his cost of living—and his wage is the result of his production effort and not the beginning of it.

Entirely too much stress has been placed of late years upon the right to a living wage, and the living wage has been scientifically discussed as though it could be measured by calories of food, by minimum air space in houses, by limitations of clothing and shelter.

The cost of living is labor, either the labor of the man or the results of the surplus labor his forefathers devoted to his inheritance. The conveniences we possess today, even in the poorest of families, are the results of the release of labor in time and effort from the stern necessities of a former life, so that his labor could be engaged upon the production of additional conveniences. Pyramids, old cathedrals, Roman waterways, the irrigation systems of Asia Minor, prove that man could construct great works without modern machinery, but it took so

much time and effort and human energy to do it that the progress was extremely slow. Conveniences of life and comforts of life are due entirely to the amount of production effort and its efficiency, and it is useless to attempt to turn the problem around and base the wages of the worker on the cost of his necessities.

Wages Based on Supply and Demand

Since the wage-earner has organized more or less successfully he has acquired sufficient power in a good many industries in this country and in most industries of Europe to enforce his demands; in other words, to corner the supply by organization and make the demands through the power of that organization. For that reason the arbitrary basis of supply and demand is only accentuating the problem in industry instead of solving it.

The attempt to meet the production necessities by using labor in accordance with the supply and basing its wages upon that, does not induce the worker to use his full capacity for production. It frequently bears no relation to the value of the work to society, nor the amount of training and intelligence required in the preparation for it.

Until we are willing to take production service as a basis of reward and to analyze that service so that it can be determined in its individual relations, wage systems must continue to be arbitrary and in themselves ineffectual in inducing the worker to put forth his full capacity in production effort, incapable of removing the conflict existing at all times, and insufficient to provide a reasonable measure of justice for all workers.

Relation of Wage Rate to Production Costs

Though it is unlikely that wage systems can be produced at present much more satisfactory than the ones

developed by tradition, a great deal can be done in improving the workers' position under the present systems of pay if these are understood properly.

In one of the eastern cities of the United States, two factories engaged in the heavy metal trades using approximately the same class of labor and the same manufacturing equipment and paying approximately the same base rate, differed in their production costs very greatly. In the first factory the wages had increased 150 per cent over the 1916 wages, while the cost per unit had decreased nearly 20 per cent over the same period. In the other factory wages had gone up slightly more, about 154 per cent, and the production cost had increased 35 per cent per unit.

Similar examples can be found in many other manufacturing fields. This absence of any definite relation between the wage rate and the production cost represents the important basis for analysis. Where they have been examined carefully, production costs per unit vary very greatly in factories of the same type while the wage rate varies in the same factories only within small limits. The general systems of payment, whether time- or piece-work or combinations of the two, do not represent sufficient variety to account for the great differences involved.

Until it is customary for production managers and manufacturers to consider wages from the standpoint of cost per unit of production and to examine the factors that enter into this cost, the present confusion will continue to exist in dealing with this subject.

Factors Entering into Proper Wage Rate

The wage systems must be considered in connection with the incentives provided by the work and the organization. The quality and quantity of work produced vary

with the interest, the spirit of the organization, and the other qualities humanly affecting the attitude toward the work. This variation reaches sufficient amount in its effect upon the cost of production per unit to represent a very important element in all wage systems. In a consideration of a number of factories during the last three years, the variation in the cost has been as high as 50 per cent from the maximum to the minimum, although the wage basis rarely varied over 10 per cent between factories in the same locality.

A doubling of the labor cost per unit of production in one case over another means a very important difference in the economic position of the companies making those lines of commodities. Very little discussion has been entered into along these lines, however, and the discussion has been limited principally to the wage systems instead of the valuable factors entering into production ability.

Under present circumstances, the difference between the different systems of payment is not important. The important matter is the more definite analysis of the valuable factors entering into labor costs per unit of production.

A study of this kind will indicate the elements of value in the wage systems and those which can be changed to improve the production capacity. Of all the systems for general wage payments used at the present time, the ones which are predicated upon the relation between the individual and the quantity and quality of his production are the most effective in their general application.

CHAPTER XIX

BONUSES AND PROFIT-SHARING

Forms of Profit-Sharing Systems

Because the wage system is the point of attack in almost all cases and serves as the text for the actual expression of all forms of discontent, it has been the most usual point of consideration in the endeavors of manufacturers to remove the discontent. Few manufacturers dip into the causes of discontent very far. Most manufacturers have observed the fundamental failure of the wage system to satisfy the demand of the workers, and many of them have instituted some form of additional remuneration in the attempt to adjust matters in this respect.

These attempts at profit-sharing run all the way from a mere arbitrary bonus upon wages, given as a reward for production, to a full-fledged system of sharing the profits of the organizations among capital, government, and governed in the manufacturing establishment.

The numerous forms of profit-sharing which were established to meet certain immediate necessities, are not sufficiently important and do not depart sufficiently from general practice to be worth considering in this connection. Bonus systems for production, stock-sharing systems, and time-study systems, where the payment is made for the different requirements of a task, are all valuable so far as they go, but they secure their principal value from comparison with other establishments in which these systems are not used. The common adoption of such sys-

tems would mean their elimination as a means of removing the causes of discontent or accelerating their adjustment.

Incentive and Responsibility of Worker

They do not in themselves provide incentive and they are far removed from giving the worker any share in the responsibility for production or any partnership in the responsibility of the organization. They must inevitably fail whenever the competitive advantage they offer is eliminated by the common adoption of similar systems. Such systems may appear to remove the causes of discontent, temporarily reduce the labor turnover, and eliminate strikes for a given period of time, but the advantage is not a permanent one.

Any system which attempts to satisfy the physical necessities of the worker or his present physical ambitions, without increasing his responsibility in connection with the conditions of his own work, is bound to fail ultimately. Group organizations of human beings are held together by the necessity and the responsibility shared by all members of the group. The responsibilities are not equally shared, but they are shared by all in the group.

Of the profit-sharing systems, there are one or two based evidently upon the responsibility of the various individuals of a group to the group necessities. They show unusual recognition of the value of a permanent working force. Some examination of their condition is of interest as indicating the departure from the usual practice made by individual concerns, and the lengths to which individual manufacturers have gone in their endeavor to solve this question.

An Extreme System of Profit-Sharing

Had the following system emanated from a professional socialist it would have been decried as Bolshevism,

but it was established by a successful and hard-headed manufacturer who employs a force of 250 people, most of whom are not organized, and therefore could not at any one time develop much strength in a strike or materially embarrass his production.

The system is based upon three cardinal points:

1. The allowance of 6 per cent on the invested capital as a part of the expense of the business.
2. The provision of a living wage to all employees, from the president to the night watchman, this living wage being based upon the general cost of living in the social surroundings that govern to some extent their cost.
3. The division of profits equally between the invested capital and the workers in the business, including in the workers all who spend their time in the active organization of the business, from the president down.

The details of this organization represent many further interesting facts. The one-half of the surplus of profit belonging to the workers is divided as follows: One-third to the selling force, one-third to the executive department and offices, and one-third to the factory. In each case this division includes supervisors and supervised alike. There is no distinction between the man who is spending his life governing a department of the business and the man who is spending his life working under a supervisor.

The amount paid out of the fund is divided according to the salary designated to each worker under the living-wage clause. The wages themselves are adjusted periodically, according to necessity, but they are adjusted only from top to bottom when any adjustment takes place. In other words, there is no adjustment of one worker or

one department of workers because of a market necessity, so that there can be no discontent arising from a partial adjustment of wages only.

Conditions of a Profit-Sharing Fund

The payment of the fund set aside for the active workers in the establishment has been laid out in various ways in the few organizations adopting a general plan of this kind.

In one instance the conditions are laid down by the officers of the company, and no worker can secure his share of the fund except under those conditions. In the meantime the fund is deposited for them with the concern as trustee. In this concern the office staff, the selling force, and the supervisors are paid their share annually in a lump sum, but the workers in the factory can only draw their money out under the following conditions:

1. Upon leaving the employ of the company.
2. Upon buying a home.
3. Upon buying insurance.
4. In an emergency, to be determined only by the president of the company.

The reasons for this latter are obvious. It is the desire of the company, of course, to protect a man against his own weakness to some degree, and it was found that some of the workers spent all their money in a few days upon speculative investments, extended vacations from the work, or periods of dissipation.

In another organization in which the same problem came up, the conditions under which a man could draw the money accruing to him as his share in the profits, were left to the determination of a committee of workers drawn by election from every department of the company.

In all these cases the living wage is placed at such a figure that it will pay all ordinary expenses, including the usual medical attendance, the education of children, and so forth, so that the share in the profits is expected to provide a fund for emergency and for old age.

Placing of the fund at the disposition of the company itself is a weakness, and to this is due suspicion attaching to it in the minds of some workers that the company will decide to its own interests. This difficulty has been eliminated in the later development by placing the control of the fund in charge of a committee of workers.

Publicity of Profits and Conditions to Workers

Two by-products of this system are of greater interest than the system itself and perhaps have as much to do with the success of the system as the actual character of the profit-sharing. The most important of these is the necessity for a statement to the employees as to the amount of business done, the cost of doing business, the profits, and so forth, so that the employees may know what their share will be.

Without this, of course, the system would not remove the old suspicion. Books might be juggled, incorrect statements might be made, and expenses introduced so that the result would show only a small fund available for distribution.

To clear away any possible misunderstanding in this direction, and to give the workers an opportunity to see what the business is doing, a committee of workers, one from each of the different departments, meets once a month and gets up a statement of the condition of the business, being supplied with the information for that purpose from the company's books. Inasmuch as this committee takes in a man from each department, includ-

ing the auditor's department and the purchasing department, it is obvious that the net result is complete publicity to the workers on the actual profits made.

The benefits of this item extend far beyond the confines of the profit-sharing system out of which it grew. The ignorance of the worker as to the percentage of profit, and the relation his wages bear to the cost of doing business affects his adherence to union demands for larger rewards without understanding the effect of such demands. Every worker in this establishment sees the statements simplified so that he can understand them, on the cost of material, cost of labor, cost of all items entering into the total expense of the business, and he has an opportunity to realize the insignificance of the share which capital is securing out of the business as an investment.

Favorable Results from System

The system has been a success in the small establishments in which it has been tried. It has stabilized the working force so that the turnover of labor is very small. It has made each man an inspector, interested in the quality and speed of his output and of the output of the other workers. It has made each man take an interest in the maintenance of quality and accuracy all through the plant, because every worker receives a portion of his material advantage from the way in which the product is received on the market, from the price it secures, and from the contentment of the customer. It has developed an interest all through the organization in the necessity for pleasing the customer in every way, and it has resulted in the payment of a large amount above the 6 per cent allotted to the stockholders, so that the invested capital has not suffered by the development, but has apparently increased its earnings by this method.

Bonus Systems

This example of profit-sharing represents the extreme to which individual manufacturers have gone. The average plan of profit-sharing denotes an arbitrary percentage of the gross profits as an additional payment for the workers. In many cases this arbitrary percentage is based upon some general production requirements. In most cases, this arbitrary bonus is regarded by the employees as an additional salary. It does not operate to increase their sense of responsibility, they do not secure any idea of partnership from the extra reward, and in many cases it is connected with the production so indefinitely as to have no effect upon the production capacity. There are a number of volumes dealing with the details of the various profit-sharing systems. The student who wishes to examine those detail systems can find material ready to hand in many quarters.

The value of any system of extra payment depends largely upon the following fundamentals:

1. The bonus or extra payment must be visibly connected with the production capacity of the individual or the immediate group.
2. If it is not connected with production, it must have some bearing upon the economy of the group work. That is the amount of work accomplished in relation to the cost.
3. The method of arriving at it must be understood by all workers sharing it and the actual figures involved must be known to the workers so that they understand the justice of its distribution.

It should lead to the improvement of the work itself and the conditions of work by the worker. In this way

the interest can be retained and increased by the extra payment system determined upon.

Bonus Based on Group Accomplishment

In every case where these profit-sharing systems have been successful in eliminating trouble, increasing efficiency, and reducing the cost per unit, they have been operated out in the open. The employees have understood every calculation involved and all the figures necessary have been brought to the attention of each employee interested in the case. In addition these successful systems have been so arranged that the actual accomplishment of the individual or the group has been a part of the calculation in considering the extra pay, and this calculation has been visible to the workers involved.

In a factory in New York City where a bonus on economy was established, one department was composed of Italian workers. One month had two or three days on which the anniversaries of famous Italians were celebrated. A number of the workers decided to celebrate those days by staying away from their occupation. The bonus distributed two weeks afterwards showed a cut of 1 per cent. A deputation waited at the manager's office to find out why this had occurred. They were shown the figures for the department. These brought out the loss in production due to the extra holidays taken by the patriotic Italians. The concern did not need to discipline those men; the other workers in the department who had been cut 1 per cent, fixed it so that extra holidays were eliminated from that department. In this case the bonus depended upon the work of the group, the method of arriving at it was known to the group, and the effect of any lessening of productive activity was easily visible.

Value of Profit-Sharing Systems

On the other hand, a large factory in the Middle West decided to put in a profit-sharing system based upon an arbitrary percentage of the wages and appropriated a large sum of money to develop this among the 10,000 workers. The plan did not improve the production situation. An attempt was made to find out the reaction of the worker and an able man detailed to the investigation.

This man found the general attitude one of indifference. Each man felt that the extra work he could do among 10,000 would not make any difference and the percentage would be paid about the same.

It is important in profit-sharing that the distribution should be frequent. The wage-earner is not accustomed to spread large sums of money over a long period and the big reward incentive is the frequent addition to the regular pay-roll.

Workers remain as workers because they do not accept responsibility easily. They desire safety and a reasonable amount of money on which to live.

A square deal from the employer, a good wage, and permanent employment with some voice in the government of their own working conditions, are about the limit of their desire. Profit-sharing systems are not necessary. The careless way in which they have been handled have made some of them positively bad and many of them mean nothing more than a little more pay in the envelope.

Analyzed on the basis of incentives, they can be made of value. In few cases have they been of any importance and in those cases their importance is not because of the system, but because of the human quality that put them in motion. They are still in the experimental stage and their value will not be visible until they have survived the fluctuations of economic conditions for some little time.

CHAPTER XX

INDUSTRIAL RELATIONS DEPARTMENT

Reason for the Department

The first step in the consideration of the human side in industrial affairs was the abandonment of the old "hire and fire system," and the attempt to investigate the fitness of an applicant, his record and his past experiences, so that a better use could be made of his potential capacity.

To do this it was necessary to investigate, and employment managers came into existence. During the last few years this development has been sufficiently widespread to lead to special courses in some schools for the development of employment managers, so that they would have same particular fitness for their work.

This examination of applicants led to the consideration of training, and educational facilities have been installed in a great many plants for the purpose of training employees to greater proficiency in certain general departments of the companies' activities.

The unrest culminating in the severe troubles during 1919 and 1920 led to the employment of men charged with supervision of industrial relations as a general matter, and a sufficient number of these men have been employed to warrant the forming of a national association with its conventions and usual meetings. It is a little difficult to define the duties and responsibilities of the industrial relations managers, and in many cases where they have been employed the reasons for their employment are very indefinite.

Wisdom of Specializing Industrial Relations Work

In at least a number of cases where I have talked with industrial relations managers, they have conceived their duty as one of keeping the employees happy with the least possible expense to the company. In some cases the department has been created so carelessly that the head of the department has conceived his principal job as a sort of Pinkerton Detective Agency for the management.

The wisdom of employing special men for the operation of the details of industrial relations work is questionable anyway, and if the employment of such a man is supposed to relieve the rest of the executives from thinking about and studying requirements from the human side, the specializing of such work is dangerous.

The only hope of better conditions in the industrial organization is the education of the executives and supervisors, by a continuous exhibition of human sympathy on the part of the management, and a continuous insistence upon human understanding on the part of the subordinate executive.

This education cannot be secured if the industrial relations question is conveniently shelled into a special department and the manager of that department becomes more concerned with the maintenance of his own job than with the solution of the problem. There are very few industrial organizations so wisely constituted and so sympathetically managed that an industrial relations manager could hope to do his work properly without, from time to time, conflicting with the ideas of those who have hired him.

Unless the industrial relations manager is big enough and possessed of sufficient human understanding to sell his employers out of their own prejudices and habits of mind, to accomplish things in spite of existing narrow-

mindedness, and to secure the confidence of the workers, the job will not accomplish any material results, and the big purpose for which the department has been started will fail for that reason.

Problems to be Considered

There is a grave danger that hasty establishment of industrial relations departments by manufacturing establishments will confuse the issue, instead of leading to a greater measure of agreement and understanding. Behind the industrial unrest is the lack of interest and confidence on the part of the workers and the consequent absence of allegiance; the absence of any incentive and the objectless character of the work. The ability to create confidence, to implant an incentive, and to teach, is not usually secured by special education nor is it to be developed merely by the appointment of a special department.

Where supervisors must be concerned with the details of operations, it is important that they be trained especially in the character and requirements of those operations, but such special education does not improve their capacity to handle men. That capacity is not likely to be improved when the whole subject of human relations is transferred to a special department and the supervisor relieved of his responsibility in the matter.

An Educational Department

There is a place in the manufacturing establishment for a department to carry on the organized process of education, to see that grievances are adjusted, and that all necessary changes affecting the interests of the men are properly promoted and understood. Such a department is badly miscalled when it is named an industrial relations department, and a label of that kind may be dangerous,

because of its suggestion that responsibility is removed from the other executives.

Even for the purpose of education, the choice of a manager is a very important and somewhat difficult matter. To find a man who knows how to arrange teaching and knows what should be taught, who understands the people who are to be taught, and who at the same time has a large amount of that most uncommon quality, common sense, is not an easy task. If such a man is found, it is not altogether unlikely that his first job would be to educate the management to the things they have not discovered in their acquaintance with the establishment.

Deficiencies of System

Until the managers of the manufacturing establishments are convinced of the deficiencies of the present system, of the necessity for change and justice of the proposed changes, none of the other work will be of much value.

Until the manufacturers realize that the worker has a right to know what becomes of the dollar secured from the customer, that he has a right to know the significance of his work and to discuss his grievances, there is not much use in establishing any industrial relations department.

Those outside of this department must be convinced that the obligation rests upon the manufacturer to understand his workers, their habits of mind and their necessities, and to take such measures as may be necessary for their orderly co-operation. There is one exception to this case, and that is where the manager of industrial relations himself is versed in and convinced of these matters, and sufficiently wise to see the orderly development of their operation. If in addition to these qualities, he

has the strength to convince the manufacturer of the value and importance of the things that must be done, the industrial relations department may improve the organization very greatly and secure the sympathy of all parties by virtue of its own strength.

Manager of the Department as an Executive

In other words, the value of an industrial relations manager is about equal to the capacity of the manager as an individual, to the authority which will be given him, and to the practicality of his operations. The really effective organization to be adopted in an industrial establishment in connection with the labor question is that which provides a bureau of employment, facilities for training, and facilities for general education, under one head. The reason for co-ordinating these under one head is that the knowledge of the individual's record, capacities, and tests is of great importance in his training, and the composite picture secured from handling these matters is a fundamental operation in the general education.

An examination of the proceedings of some of the conventions of men who have been appointed to industrial relations management does not suggest that many of them understand the importance and definite character of their work, while the method by which a number of them have been chosen for their positions indicates a similar lack of understanding on the part of the manufacturer.

The value of any specialized activity, labeled industrial relations, is doubtful. That subject is too big and too important to be centered in any special department, it is affected too closely by the action of every supervisor for any responsibility to be removed from him in the matter.

Certain operating developments which grow out of it,

such as those already stated, can be centered in one department and should be in charge of a special executive, but this man should not be recognized as a separate company activity. His work should be that of a special assistant to the general executive in charge of the manufacturing establishment, and the general executive's contact with him should be intimate and close, as in the case of his other executive assistants.

Immensity of the Problem

It is not only that the industrial relations question is big, so big that it frequently goes outside of industry and has its direct bearing upon political methods, but it must be handled, not only with a desire for justice and an understanding of the psychology of labor, but with patient practicality to keep its progress orderly. As one of my deep-thinking friends said to me the other day, "It is not so difficult to see the conditions of final solution, but it is very difficult to determine exactly how the 5 per cent progress towards that solution can be made in this generation with the least disorder."

To find a man who knows what is wrong is not unusual; to find one who knows what ought to be done is somewhat more difficult, but does not require a deep search; but to find a man who knows not only what is wrong and what ought to be done, but how it can be approached, so that there is no radical change and no chaotic interlude, is a very difficult matter indeed.

Industrial departments devoted to better human understanding in manufacturing establishments have come to stay, and in accordance with the personnel of the establishment, they will add their little mite of progress or their little stumbling block in the way of solution. The confidence to be established, the incentive to be created, and

the orderly co-operation that must be secured, are matters depending upon the personnel of the whole concern—particularly the attitude of the leaders of the concern. The problems will not be solved alone nor materially advanced by the actions of the special department erected in a number of cases.

Standardization of Human Relations

In connection with the development of the industrial relations departments, employment bureaus, and so forth, the danger of standardized methods of dealing with the human side of industry is very apparent. This idea of standardization runs through all the discussions that have taken place in the organizations of employment managers, personnel directors, industrial engineers, and the innumerable other societies springing up with the idea of taking care of the human side of the industrial problem.

It is true that there are certain fundamental elements of similarity in human reactions, but the principal possibility of development lies, not in these fundamental similarities, but in the endless individual variation which develops an infinite variety in the quality of action and thought. We do not even know with any certitude the fundamental elements of similarity and what they mean in practical action. We have no understanding of the way in which these fundamental elements govern the endless individual differences, and we are utterly without information as to the potential powers existing in these variously combined qualities.

We have already standardized to such a degree in our attempt to use human beings easily in industry, that standardization has in many cases developed into a dangerous suggestion of uniformity. This standardization has grown up out of the ignorance of fundamental human require-

ments, and it has been one of the chief elements in the growth of trade unionism and the development of socialism.

All standardized methods of examination of human beings are inefficient to that degree—the most desirable method of selection, like the most desirable method of education, is the one which is individual and arises out of the instinctive capacity to draw the individual out.

This idea of standardization in human relationships is simply another way of attempting to do by system what we have not sufficient knowledge to do by understanding, and the result is likely to be more confusion and more difficulty, because these organizations of various kinds will be limited by the systems they adopt.

It is a sufficiently hard matter to standardize effectively the technical practice in a business dealing with understood mechanical principles. Every step in the progress of such technical practice demands the elimination of old standards and the readjustment of standards to the new state of knowledge. We are thoroughly well informed regarding mechanical principles, and are able to govern the results with a fair degree of accuracy and with a fair degree of foresight.

Our knowledge of humanity is meager and we have not made any notable progress in this respect in the growth of our mechanical convenience. To attempt to standardize and to classify into systems our present ignorance of human relations, is to assume a knowledge we do not possess and seriously to impede the possibility of progress.

Confusion Caused by Organizations

Equally significant is the number of organizations coming into existence with the sole object of establishing new systems of dealing with the human being. This

multiplicity of organizations leads to a great deal of confusion and to the development of a large amount of unnecessary propaganda for this or that method of increasing the efficiency in dealing with the human side.

If these groups were based upon discussion and the gradual illumination of the matter by the definition arising out of the friction of the discussion, there would be some valuable progress in their development. Almost all of them have been formed by people who are not only interested in the subject, but who are also interested in certain systems of development—of which each system, of course, contains the only elements of thorough value in dealing with the situation.

Such organizations have a tendency to establish a terminology and a technique of operations long before they have thoroughly illuminated the principle upon which such a technique should be built. They may be of some value in a limited way, but their constant multiplication is of no advantage and may be a great disadvantage.

Disregard of Human Development

No operating technique or system of dealing with the selection or co-operation of workers is of any particular importance at the present time. The co-operation depends largely upon the development of a spirit of fairness among all parties, and the selection depends upon an increase in the measure of understanding on the part of those who must select. Selection must always take place because of the fitness of the individual for the work, in his skill and the quality of his mental development.

The total efficiency of the group is the average of the value of each individual in the group. A thorough understanding of the individual, his skill and his quality will automatically raise the average possible efficiency of the

group, while neglect of the individual, in the attempt to standardize and provide easy systems for mass selection, will merely bring the individual quality to the average upon which the system is based. Practically all of these organizations act as though the individual was no longer the basis of human development and efficiency was no longer a question of the individual capacity.

The very necessities of our organization have driven us to standardize work and pay, the unions have attempted to make skill a uniform matter, and these things are disturbances enough to our present system of organization. To organize for the purpose of furthering these standardizations and elevating the neglect of the individual into a scientific technique, seems to be a method of improvement by increasing the present difficulties.

This does not mean that study of the human side should be neglected. No man can expect to understand humanity without giving it a great deal of study. The lack of definite knowledge on the subject means, in fact, that this study is more severe and more laborious than any other study in the attempt to acquire definition. The objection to their organization arises from the attempts at systematizing on too little study and too little understanding of the matters with which they are dealing. Their efforts at organization are based upon the most fragmentary and partial examinations of the matter.

Lack of Equitable Definition

The systems are not based upon much more knowledge than the course which undertakes to teach all about handling humanity in six months. In thirty centuries we have not been able to define the framework of fundamental human principles and determine the elements of human co-operation. Under these circumstances, it seems un-

likely that organizations can be started after a few months' or a few years' fragmentary study of the question and build up systems of operation that will be of great moment in dealing with the subject.

It would be better, for a time at least, if the systems grew out of the individual methods of operation in each case, and were discussed in the endeavor to find those principles threading through all systems. Some real progress might be made by such discussions and the understanding of the human side greatly forwarded.

It is not standardization we need, but definition. What is a square deal? I have been unable to secure the same definition from any half-dozen men. Most of the time the square deal we talk about is concerned with what the other fellow should do to us, and does not refer very much to what we should do for the other fellow.

I have yet to find a dozen men who can agree upon the term "fair wages." Efficiency, alertness, initiative, and all those other words we use to describe human qualities, lack definition, and their meaning is so vague that no two men translate them into the same actions.

There can be no standardization of effort worth while without a definition of fundamentals so clear that the terminology is thoroughly understood. With the present vague, indefinite, fragmentary ideas of human quality and action, systems based upon such ignorance are not likely to be of any importance and they may be dangerous.

CHAPTER XXI

OPEN SHOP

Various Definitions of Open Shop

There is a well-defined movement in manufacturing circles for the more extended use of what is termed the "open shop," and this movement is having encouragement from a great many thoughtful manufacturers who have been disturbed by the actions of labor organizations and see no hope of a solution through their activities.

This term does not have the same meaning in the minds of different men. In the minds of many workers, and some manufacturers also, an open shop simply means a factory where the non-union man is welcomed and the union man is ostracized. In the minds of a great many workers, and in the minds of a great many manufacturers, the term "open shop" means a shop which does not recognize the union organizations at all, but which in other respects is "closed."

The use of this term in speeches by many men of different habits of mind indicates again the general tendency we have to label a thing without defining what we are labeling and therefore not knowing what the label means. There is no doubt that the labor union, as it is at present constituted, is incapable of solving the present industrial difficulties, and in some respects under certain types of leadership, it is likely to perpetuate the differences instead of solving them. It is also true that strict justice demands that any worker who is competent in performing the work for which he is hired, has a right to the

opportunities of work without respect to his affiliations or his individual attitude toward labor organizations.

Improper Spirit against Unionism

In a good many of the statements that have been made, however, the inference is that the open shop is a back-fire against the growth of unionism, and is justified as such.

It would be very unfortunate to have this spirit enter into the controversies and the action, because it would destroy the true value and the possibilities of the open shop and would militate against many of the wise experiments being conducted in the endeavor to increase the co-operative unit in the establishment.

The manufacturer says truly, that the labor union should not be permitted to coerce the worker into joining a union by demanding the closing of the factory doors to all men who are not members thereof.

It will not aid the solution of the matter, however, if the worker is permitted to get the idea that the open shop movement is a coercion against the union with no more freedom of action for the worker and with a larger element of control by the manufacturer. It must be remembered that a very large percentage of the workers who are members of unions are reasonably sane men who do not agree with the actions of the unions at all times, and who resent the autocratic control and coercive spirit which characterizes many of the unions in their development and their practice.

Open Shop Founded on Justice

To these men, as to all other workers, an open shop development founded on a greater measure of justice than the unions have ever conceived, founded upon square dealing between employer and employee without respect

to their personal ideas, their outside affiliations, or their racial inheritance; a shop open not only to all workers, but open and above board in its decent consideration of the worker about his wages, the conditions of his work, and the rules and regulations under which he must work—such an open shop would be a step far in advance in the solution of the present industrial difficulties and the establishment of the factory as a truly co-operative unit, working out the problems of its own necessities.

A shop of this kind will find its adherents coming from the ranks of the unions in greater proportions than they come from the ranks outside of the unions. No union will ever be able to catch up to this kind of a shop, because it would be so far ahead of the unions in its conception of justice and its operations of the square deal that the union would be incapable of advancing to the same point.

Unless the open shop policy is to mean this sort of development, however, it will be futile except as a temporary measure and it will ultimately fail as an element in the permanent solution of the problem.

Effect on Labor Unions

Labor leaders, walking delegates, young restless workers, intelligent and discontented workers of all kinds, and natural organizers, will not see the labor unions or other labor organizations eliminated from their shop control without the utmost attempt to hold them in line and await a more favorable opportunity.

That labor leaders are ready to sense these things is indicated by the following quotation from a union president to the members of his organization during the period of depression following the war :

“This is not the time to listen to anyone who advocates hasty, intemperate or ill-considered action, for the fac-

tories will not be laying off workers forever or be slack all the time. They will get busy one of these days and when they do we must be ready to repair any damage done."

The last sentence is the important part of this quotation, indicating that the labor organizations recognize the difficulty of a depression for the unions, the necessity for quiet and careful development of their plans under such conditions until a more favorable opportunity arises.

Organization development of this kind will not be stopped permanently by the mere starting of an open shop plan without any qualifications as to what the open shop means and without a sharp definition being drawn between the desire to destroy the union and the demand for equal conditions of work for all workers. No progress was ever made by taking the negative side of the situation only, and placing the emphasis of the campaign upon that. The only value of the negative is to draw from its consideration the positive improvement to be secured by correction of the present difficulties.

Clear Definition Necessary

The statements made regarding the open shop from the manufacturer's side, have emphasized the deficiencies of the union development and absurdity of the union position on these matters, but have not sufficiently stressed the positive position that must be taken in order to make an open shop policy successful.

Most of the workers know little or nothing of the manufacturer's plans, or politics, or desires. Most of them are suspicious of the manufacturer's motives and a very large number of them regard the union as their means of protection from the manufacturer.

Under these circumstances the objection of the manu-

facturer to the closed shop and his stated preference for the open shop without any definition of what he means, or any program of action which has a positive suggestion of improvement, is likely to increase the suspicion and the disagreement without offering any possibilities of permanent solution.

Ideal Principles of Open Shop

It would be very much better if there were less talk about the open shop and more careful study of its necessities and possibilities. As was stated in the beginning of this chapter, the true open shop, if conducted with justice and understanding, offers the greatest hope of manufacturing unity and the co-operation of labor, management, and capital in the working out of the problems. This is so because such a shop would be humanly far ahead of the union organization. It would offer an incentive and an opportunity to the workers that are not contemplated under any present union conditions. If such shops were established in a sufficient number of cases, and if more of them were started, there would not be much necessity to make an outcry about the open shop or the closed shop, because the tendency would be sharply defined and the advantage definitely shown.

Antagonistic Policy Disastrous

It is a poor way to start reorganization by degrading a possible improvement into a fighting term, to neglect the positive opportunity in favor of negative reaction against deficiency. The progress toward a really permanent, unified open shop will not be aided materially by those who talk about it as a means of combating union influence and whose remarks particularly show more vehemence than discretion in their approach to the problem.

If possible, it is to be hoped that we can approach the human side of industry, so that it will be unnecessary for us to arrive at the highly organized condition exhibited in a country like Great Britain. The solution of our difficulties will be secured much more rapidly and difficulties themselves will be much less, if we can avoid that condition. That condition will not be avoided, however, by continuing the emphasis on the fighting side of the situation and losing the opportunity to emphasize the improvement side of the situation, information on which can be gathered from the experiments conducted up to date.

The open shop is a better industrial condition than the closed shop, in some cases. In other cases, it is worse and the difference is entirely in the character of the shop and the measure of justice and understanding which has gone towards building it. The open shop as a means of forcing the unions out of the shop will fail of its purpose. Repressive measures in this matter will be unavailing. The open shop as a more advanced example of fairness, co-operation, understanding, and sympathy between all the elements of an establishment will aid the solution of the human problems immeasurably. The closed shop is the first step in union domination. The non-union shop—closed to union men—is a further attempt to hold autocratic control by the manufacturers. The open shop presents opportunities offered by no other type of shop and should be of great value if its possibilities are understood.

CHAPTER XXII

THE OUTLOOK

Political Influence on Industrial Conditions

The situation in industry shows strong movements among workers and groups of employers with definite aims and opposing ideas. These movements have effected the political and social outlook. In some countries they have reached a point of divergence from the present system of industrial organization, and in one country at least the whole system of economic development has been changed by the shift of control.

All these strong movements, deficiencies, wastes, and inefficiencies indicate the necessity for change in the industrial system of organization and suggest the probable extension of political decision upon industrial matters.

The present practices cannot remain long without considerable change, because of their lack of harmony with the present state of political enfranchisement, organization, and power. They require modification in order to meet the demand for greater industrial efficiency.

Developments are needed because of the widespread and delicate character of interdependence between every part of the industrial organization—without respect to political boundaries or sectional misunderstandings.

Decentralization Necessary

The highly centralized systems of today enable a single individual to control the intimate operating conditions of thousands of workers of all kinds, so that the

exercise of judgment is limited by the centralized system and the decision is referred to rule instead of human capacity.

Such systems have developed an autocracy of operation, placing the workers in a servitude more severe than any physical servitude. The limitation of mental development required by these centralized systems leads to an increasing disparity between the individual aspirations and the possibility of fulfilling these.

Quality of Leadership Required

The responsibility has been limited so that the sense of responsibility is almost lost, the capacity for decision is not encouraged by the narrow, specialized character of the education and experience and the demand for slavish obedience to a uniform system of operation. Out of these conditions we are getting few men who are capable of leadership, because the work does not develop qualities of that kind. Yet our requirement for leaders is more severe and the problems of leadership more intense. Moreover, the number of leaders required by this vast and delicate machinery of industry grows constantly.

We need more leaders, better leaders, courageous leaders, men with fortitude and capacity. Our industrial system does not create leaders, even as well as did the small industries of two generations back.

Pressure Imposed by Labor

The men who labor with hand and brain will continue to demand some measure of freedom from the shackles of the centralized system of control as established today. As they grow in the exercise of political power and in their capacity for organization they will demand more and more their own rules and regulations to replace those

which have been forced upon them in the growth of the present systems.

The growth of labor unions, socialism, communism, and other forms of collectivist organization has been sufficiently rapid and widespread to indicate the further pressure of these ideas upon the industrial organization and the political body.

This pressure will continue until it is met by changes in the character of the industrial organization. At the same time the servitude to centralized control which has limited the capacity for responsible leadership, makes the transition of responsibility more difficult. Any revolutionary changes are likely to be followed by periods of chaos.

Disastrous Results from Present System

We are not yet ready for the industrial democracy so much discussed. We are not yet ready for the co-operation desired by the trade unionist and the socialist.

Bad as our present system is, poor though the character and understanding of its leadership, the capacity for decision and responsibility exists more generally in the selection through private ownership than any other method we know about at present.

The future of industry demands the development of the individual, so that the more democratic co-operation can be approached.

To continue the present industrial organization as it is, would mean increased wastes, failures and interruptions, increased pressure from organization forces, and in the course of time collapse through revolution or inability to function in harmony with the political and social requirements.

Revolution would mean chaos. The indefinite re-

sponsibility of socialism would be disastrous. The machinery must continue to function at a speed sufficient to supply the population with its needs. In the disorder of revolution, or rapid change in character, the population would starve while the commissions deliberated.

Mutual Understanding between Capital and Labor

It is necessary that the leaders of industry be chosen with greater care and developed with greater consideration. Leaders are needed who possess the knowledge of human growth, the factors which make for human efficiency, the courage to experiment with organization looking to improvement in its condition, and the fortitude to labor with the experiments until they are successfully developed.

By some means the present highly centralized systems of control must be changed so that they are decentralized and co-ordinated into an orderly development of individuals and groups.

It is probable that uniformity in the mechanical equipment and system will remain, but the human work requires adjustment so that it is developed by judgment, co-ordinated by understanding, and moved by individual self-discipline, and not only by servitude to the centralized rules and regulations.

Even the little man should be trained and required to exercise his judgment upon the elements of his work. To each man in accordance with his capacity the responsibility for decision should be given, so that all will be continually moving toward the capacity of leadership.

The delicate interdependence which exists demands the recognition of the moral basis of industry.

Leaders are required who know that obligations are mutual and equal, that square dealing is a prime law of

interdependence, and that common understanding only can remove suspicion. These men of vision will need all the wisdom of experience to know how and at what speed the industrial conditions may be changed.

All improvements begin with the small unit of operation and grow through the improvement of many units into a new plan of action.

The tools must be improved before the improved theory can become a practical accomplishment. Each tool is a separate item of improvement and each operation a separate possibility of development.

Men who have the patience and fortitude to improve one little group, one individual, one plant, or one operation at a time, will contribute to the great advance in industrial organization that must come.

The Human Problem the Basis for Improvement

The improvement of machinery begins with the file, the chisel, the gear, or the wheel. The improvement of industrial organization begins with the individual, the individual group under a supervisor, or the individual establishment.

The mechanical system of industry cannot be improved materially without improvement in the human character of the industrial organization.

The wastes incidental to the human inefficiencies have been the subject of much discussion and examination. The cost of supervision tends to increase constantly. The character of workmanship is not increasing with the increase in mechanical equipment. There is a constant tendency for the limitation of production pace.

More important still, the potential capacity of the worker is not being used in the actual accomplishment of industry.

These considerations point to the human problem as the major problem of industrial organization. All other items of industry are subsidiary to the consideration of this matter.

So far little or no study has been given to it. In the future much time and effort must be expended in the examination and analysis of the organization conditions in respect of the human elements and much patient experimentation undertaken for the development.

Complete Readjustment of Policies

It is obvious that the problems before industry call for leadership of a new character and the development of new leaders.

Education is demanded for the worker, education in the structure of his trade and occupation.

Plans are demanded which will harness the incentive, develop the interest, and increase the capacity for judgment and decision.

The character of supervisors must be changed so that the men who handle other men are known to be possessed of the necessary quality, capacity, and experience. The supervisory systems must be sufficiently flexible to leave ample opportunity for the development of judgment and decision.

The demand of the worker for a voice in the decisions upon wages, hours, working conditions, and so forth, must be met by the development of means for discussion and agreement in an orderly way.

The human organization cannot be controlled by the character of the mechanical equipment. The arrangement of the equipment and work will require readjustment to bring the individual operation into harmony with the requirements for individual growth.

Unless these changes are begun and developed with understanding, patience, and care, the pressure of labor union, socialism, and other organized forces upon the industrial organization will increase.

The tendency toward radical demands will develop and the call for political action upon economic matters will grow rapidly.

The war and its disturbing effects accelerated the expression of the dissatisfaction with modern industrial organization felt by a large percentage of the population in industrial countries; but the growth of this feeling was exhibited before the war in the rapid development of adherence to trade unionism and socialism.

In the United States the next generation or so will determine, by the intelligence of our leadership, whether the collectivist movements in industry and politics will ultimately secure sufficient power to direct the character of the change, or the orderly evolution of better industrial organization will make this departure unnecessary, because it has proceeded more in harmony with the requirements of individual human growth.

INDEX

A

- Agreements,
 - violation of, 77
- American Federation of Labor, 14
- American Multigraph Company,
 - employee representation plan, 158-164

B

- Balance of industrial power,
 - 93-102
- Bethlehem Steel Corporation,
 - employee representation plan, 136
 - chart, 137, 139
- Bonus systems, 250-252
- Bureaucracy in industry, 121

C

- Cabinet,
 - employee representation, 156
- Capital and labor,
 - balance of power between, 93-102
- Coercion, 110
- Collective bargaining, 84-92
 - early attempts, 24
- Conferences, employees', 152
- Co-operative societies, 10
- Cost of labor, 234
- Cost of living, 240
- Craftsmanship,
 - early, 34
 - revival of, 126
 - survival of, 103
- Creative impulse, 130

D

- Dismissal, power of, 107
- Distribution,
 - faults of present system, 45

E

- Education,
 - faulty system, 127
 - workers, 34-44, 59-73
- Employee representation, 134-166
 - American Multigraph Company plan, 158-164
 - Bethlehem Steel Corporation plan, 136-140
 - chart, 137, 139
- cabinet, 156
- conference system, 152
- discussions, 157
- house of representatives and senate plan, 153
- International Harvester Company plan, 140-152
- joint committee, 157
- Whitley plan, 167
- works committee plan, 153
- Employer,
 - as leader, 103
- Employer and employee,
 - balance of power between, 93-102
 - direct contact between lost, 128
 - relations between, 106

Employers' organizations (See
"Manufacturers' organiza-
tions")

F

Factory organization (See "In-
dustrial organization")

Fatigue, 207-219

G

Government regulation of in-
dustry, 51

Great Britain,

early industrial history, 3-8
labor union leaders in Parlia-
ment, 11

power of trade unions in, 94
present conditions, 15

Guilds,

medieval, 3

H

Handwork,

revival of, 126

Hours of labor,

and fatigue, 209

as affecting production, 213

House of representatives,

employee representation, 153

Human element,

disregard of, 125

I

Immigration,

effect on trade unions, 14

Incentives, 198-206

Industrial conditions,

before factory era, 4, 34

outlook, 270-276

Industrial councils, 167-191

Industrial organization, 116-124
old time vs. modern, 118

Industrial relations department,
253-263

Industrial relations manager,
257

Industrial revolution, 32

Industrial training,

before industrial revolution,
34

one-job, 222

present-day, 37

Industrial Workers of the World,
15

Interdependence of industry,
45-58

collective viewpoint, 54

individual viewpoint, 53

Interest in work by worker, 216,
220

International Harvester Com-
pany,

employee representation plan,
140-152

J

Job adjustment, 220-230

L

Labor Party, British, 8, 12, 95

Labor turnover, 195

Leadership, 103-115

employer in, 128

trade union in, 105

Legislative functions of organiza-
tion, 116

M

Machinery, introduction, 5

Manufacturers' organizations,
74-83

Manufacturers' organizations—*Continued*

- collective bargaining and, 87
- discipline and agreements, 77
- methods, 75
- restrictive activities, 80
- weaknesses of, 78

Military type of organization,
117

Monotony of work, 215, 222

Moral basis for group organiza-
tions, 54

O

One-man-one-job, 222

Open-shop, 264-269

Operative functions of manage-
ment, 116

Organizations (See "Industrial
organization," "Manufac-
turers' organizations," and
"Trade unions")

P

Padrone system, 25

Parliament,

labor union leaders in, 11

Personal responsibility, lack of,
132

Piece-work, 239

Prices, individualistic viewpoint,
49

Production,

and fatigue, 213

faults of present system, 45

standardization by manufac-
turers, 74

standardization by trade un-
ions, 28

trade union control, 28

Profit-sharing, 244-249

Publicity, trade union, 25

R

Rewards, 198-206

Rules and regulations,
trade unions, 9

S

Scab workers, 27

Second Industrial Conference of
the United States, 169,
185-191

Senate,

employee representation, 153

Shop stewards, 9

Specialization of industry, 37,
192, 220
effect on workers' education,
220

Standardization,

by manufacturers' organiza-
tions, 74

by trade unions, 28

Steam engine,

introduction and effects, 5

Supply and demand,

hinders production, 50

wages based on, 241

T

Trade unions,

achievements, 30

as leader, 105

control of production, 28

early, 6

early benefit policies, 23

Trade unions—*Continued*

early propaganda, 25
factor's affecting growth, 21
history,
 Great Britain, 3-13
 United States, 13-19
individual vs. collective force,
 24
legalization, Great Britain,
 6
membership in, Great Britain,
 8
methods, 29, 31
politics, Great Britain, 11
power of,
 in Great Britain, 94
 in U. S., 97
program, 20
protective policies, 23, 26
scabs, 27

U

United States,
 power of trade unions in, 97
 present conditions, 17
 trade union history, 13-19

W

Wage systems, 231-243
 bonus systems, 250-252
 profit-sharing, 244-249
 standardized, introduction, 6
Waste, 195
Whitley plan, 167
Whitley report, 170-185
Workers,
 education and training, 34-44,
 59-73
 individuality, 43, 129
 training, 220-230
Works committees, 153

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